

STATE OF DIVERSITY: The Native Tech Ecosystem

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October 2023

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Origin Stories, Native History, and Technology

In order for the narrative in this brief to honor the complexities and lived experiences of **Native people**¹ surviving genocide today, a cultural, economic, historical, and epistemic overview of the relationship between Native communities and the US education system, research practices in our communities, and technological development is needed. To paraphrase **Amanda R. Tachine**, there is an investment in the ongoing erasure of Native people and our sovereignty from education. In illuminating this context, we hope to make explicit the **connection between the deficit nature of the figures presented and the systems** which create and profit from these disparities so that the conclusions drawn do not reinforce the damaging narratives about Native communities that maintain colonial saviorism and superiority.

¹ Native, Native American, and Indigenous are used throughout this report to discuss issues pertaining to both tribally enrolled and non-recognized Indigenous people throughout the US. Refer to the glossary for additional details.



To set the tone for this report, we begin with our tribal origin stories and share their relationship with technology. Our origin—or creation—stories are passed down orally from one generation to the next to help us understand how our world came to be and our relationship to the land, water, cosmos, and other living creatures. In the Tsalagi, or Cherokee, origin story, we speak of the earth as a great floating island surrounded by water. The earth came to be when Dâyuni'sî, the little water beetle, came down from Gâlûñ'läti, the sky realm, to see what was below the water. He dove to the bottom of the water and began bringing up mud that expanded in every direction and became the earth. Through water beetle's efforts and the efforts of many other animals, it was then transformed into the lush valley homelands of our people in what is present-day North Carolina.

For Inupiat people, and Inuit people more broadly, there are myriad creation stories across our vast territories from Siberia to Greenland and different creation stories for people, our lands, the cosmos, the animals and plants, and the luminaries of the sun, stars, and moon. Raven is our first teacher, the embodiment of our truth and the creator of our world. He is a bird with a man's spirit inside of him and his beak fixed the first piece of land to the earth as it bubbled up out of the sea. He created all of the creatures of the world and yet he remains curious about them and learns about them by watching, listening, and playing with them. Once he painfully learned that all things in this world live and die, he instructed humans to remember that each animal we harvest has a heart and soul. Our foodways honor him in our tradition of giving water and gratitude to the animals that give themselves to us in our hunting and whaling parties.

Capital gain and broken treaties continue to stampede over tribal nation cultural values and resources and create novel challenges for Native communities surviving genocide. Tuck and Yang (2012) define **settler colonialism** as “settlers com[ing] with the intention of making a new home on the land, a homemaking that insists on settler sovereignty over all things in their new domain.” Fighting for our land back still continues with examples like the McGirt v. Oklahoma Supreme Court decision to recognize Muscogee Nation lands in northeastern Oklahoma being challenged recently by the mayor of Tulsa through the submission of an amicus brief. While the Dakota Access Pipeline gained more national attention with its violation of the Fort Laramie Treaty with the Standing Rock Sioux Tribe, many of these pipeline protests are occurring in smaller communities across the US. Furthermore, Native Hawaiians are still protesting the construction of a thirty-meter telescope on the sacred dormant volcano Mauna Kea and **fighting land and real estate speculators** after the **devastating wildfires on Maui’s Lahaina resort** that took nearly 100 lives this summer.



Once the violent seizure of lands is complete, **settler colonialism** becomes a transfer of “certain traditions, knowledge, habits and fruits of one culture to another by the time-tested method of moving people across cultural lines – people who teach and people who learn.” The (ongoing) suppression of **Indigenous** traditions and languages in non-Native serving schools, continual efforts to assimilate Indigenous peoples through the proliferation of stereotypes and negative messaging about Native cultures, and the destruction of Native children’s connections to their families, communities, lands, traditions, spirituality, and languages through the **creation of boarding schools** have consequently led to widespread intergenerational trauma in Native communities and the distrust of the American educational system and other institutional systems. Further, the ongoing mismanagement of educational systems by state and federal agencies has led to inequitable access to resources, support, and opportunities to build key competencies. Though there is a more recent centering of Indigenous ways of knowing by Indigenous scholars in the

academy, settler colonial assimilationist ideals continue to permeate our institutions of K-12 and higher education.

In tandem with persistent and exploitative education system inequities, **Native communities experience** dehumanizing and traumatizing treatment of their stories, DNA, histories, cultures, languages, data, and knowledge by colonizer researchers. Oftentimes, what can be found are **data** devoid of culturally relevant methodologies, tools, and interpretations. Native communities **recount** the seemingly well meaning researchers who parachute into Native

“In an Indigenous practice of education informed by an experiential metaphysics, the focus of self-determination is on the manner in which our being and identity itself is constituted of the number of good relationships we are part of and actively maintain. Self-determination cannot be an individual question, for the reflective sense in which our selves are grounded in life among our relations and in the relationships surrounding us requires engagement with the community of persons, both human and other-than-human, when we determine what we ought to do, what choices we should make, and how we should be self-determining.”

(Deloria & Wildcat, 2001, p. 148)





homes and organizations and promise some benefit from the provision of an interview, an artifact, or a cheek swab and who subsequently disappear without having provided any further information about the goals, methods, or outcomes of the study. Most Native researchers have the experience of looking for recent, well structured, respectfully collected, and transparent data sets about their communities only to find that many US institutions either do not collect data about Native communities at all or the **data reported** are incomplete, misclassified or misrepresented, not set in an appropriate, complex, and humanizing context, or filled with respondents who (1) are not descendents of Native people yet identify as such in order to exploit benefits granted to Native communities or (2) identify as **Native based on family stories** passed down as a way to legitimize colonizer theft of land. In recent years, some Native communities have voiced a strong desire to **refuse research** based on these difficulties with "the fetish for pain narratives."

Additionally, Native community and tribal members: (1) did not have access to the equipment needed to participate in the study, (2) do not speak English as a first language or do not read English, (3) have intergenerational trauma from exploitative, nonconsensual, and abusive colonizer research practices, (4) were not given transparent information about the study aims and community dissemination plans, (5) were not invited to participate in the design of the study or provide feedback on whether or not their people would benefit from the study or results, (6) are confused by the instrument wording, choices, lack of cultural relevance, (7) have tribal, community, cultural, and family ties and responsibilities that prevent or preclude them from participation (e.g., they are from a non-Federally recognized tribe so do not qualify for participation or they were disenrolled from their tribe), or (8) create complexities that aren't captured in the process, such as the common case of having multiple tribal affiliations and lifeways in one's birth family and lineages and yet only qualifying for or being allowed to possess a tribal enrollment card from one tribe or claim one tribal identity on forms and census counts. Often, this identity has been shifted by Federal recognition processes. A Native person can have a tribal identity on their status card that lists the name that colonizers gave to their people over a hundred years ago, one that doesn't recognize the complexity of their multiple ways of identifying themselves within their tribe. Indeed, many of our peoples never identified with blanket, universalizing terms created by colonizers, such as Indigenous, and identified ourselves as the People in our own languages before colonization. Many of our ways of self identification were and continue to be specific to our ancestral lineages and the place(s) we have always lived and migrated to rather than to an umbrella term. Therefore, **data collection and dissemination** are often sites of trauma, erasure, extraction, appropriation, misrepresentation, and performative support from colonizer institutions.

*"Modern humans use weapons, tools, and instruments to extend the capabilities of their own selves, and they use these things mechanically. Tribal people in using their instruments did not simply extend the scope of their own capabilities, but enhanced their abilities through the addition of the powers inherent in the relationships they had with other living things."
(Deloria & Wildcat, 2001, p. 62)*



Furthermore, the axiological basis of colonizer technologies is incompatible with Indigenous ways of being, knowing, and cultivating life, often narrowly referred to as Traditional Ecological Knowledge (TEK). Colonizer technologies rely heavily on extractive practices which are used in tandem with imperial military force to create, maintain, and extend their empires on lands stolen through centuries of genocide and crude dispossession of Indigenous people. Not only do colonizer technologies controvert TEK, they often destroy the physical basis upon which TEK is practiced through mining, drilling, and polluting Native lands, sacred sites, and waterways. **Violent disconnection** to traditional lands, Indigenous sovereignty, and lifeways defines much of the experience of colonization for Native people today and further accelerates the degradation of life support systems across the globe.

As a collaboration between a Native Two-Spirit person and Native women leaders connected in the field of STEM and CS education for Native youth, this report is an expression of self-determination and for our collective efforts to practice **survivance** (a term coined by Anishinaabe writer and theorist Gerald Vizenor) with each other and the people whose lives we aim to impact. At the heart of survivance is the *refusal to be doomed* or relegated to the past as a myth, an extinct population, or a suffering/noble savage trope. And while technological innovation has the potential to strengthen communities, it will require the inclusion of our communities to inform the path forward. Therefore, this report not only begins to outline the ways in which the current systems were created to primarily serve and benefit those very populations currently holding the majority of tech roles, but also to uplift Native voices, cultures, and knowledges towards a more sustainable and equitable tech future.



Introduction

Technology continues to play a significant role in global society, impacting larger macroeconomic, social, and political trends as well as infiltrating every aspect of our individual daily lives, with its presence and importance continuing to **increase exponentially**. The technology sector contributes significantly to the United States economy, employing **9.15M tech workers**, and growing by over **280,000 jobs** per year, with emerging technology occupations, including cybersecurity, data scientists, and software developers, projected to **grow by over 200%** in the next decade. The wealth created by the technology sector is astronomical—the 5 largest tech companies (Alphabet, Microsoft, Apple, Samsung, Meta) top **\$7.2T in market value**, and the median tech wage is 103% higher than the national median wage. Beyond the largest and most profitable tech companies, over **\$200B is invested** annually in startup technology companies in health, education, climate/sustainability, financial services, and manufacturing.

Despite the decades of efforts and hundreds of millions in funding to expand diversity in computing and technology, Native communities remain marginalized. As drivers of regional and rural economies, **Tribal Nations are at the forefront of job growth** and should be considered critical partners in the future of the technology sector. However, due to a long history of colonization, exclusionary policies, and current practices, Native communities continue to remain excluded from opportunities to create wealth, design and deploy innovative technologies, and to invest in products and companies led by Native entrepreneurs/engineers. As the tech sector continues to grow, it is critical Tribal Nations and communities are included in decision-making and leadership to ensure the path forward is inclusive and equitable, and to ensure opportunities positively impact Native communities.

While tech innovation has the potential to strengthen connections, maintain culture, and preserve language among many Native communities, it also has the potential to propagate harm for Native communities, through **traumatizing and toxic mining projects, fueling mis/disinformation, amplifying white supremacist** ideals and hate speech, proliferating **biases through algorithms**, and **even theft of indigenous artwork through unsustainable generative AI business practices**.



The ***State of Diversity: The Native Tech Ecosystem*** report explores the current state of Native representation in the United States; their systemic exclusion across K-12 computer science (CS) education, post-secondary pathways, tech workforce, and entrepreneurship; and provides a set of recommendations for action. “[A]s **the progenitors** of an ongoing relationship between people, land, and social and technical world,” mere representation in the current industry is insufficient. Rather, a new era of tech where Natives are producers of technology rather than just consumers of it is required.

Key Data Points

- **K-12 CS Education:** Only 59% of Native students attend a **school offering CS**, and only 20% of high schools located on **reservations offer CS**.
- **Postsecondary Pathways:** Of registered technical apprentices, only 0.6% are American Indian/Alaskan Native (AI/AN) and 0.4% are Native Hawaiian/Pacific Islander (NH/PI). Despite a 10% enrollment increase in associate's degree in computing, the percent of associate's degrees in computing conferred to Native students has remained stagnant at 1% for AI/AN and 0.4% for NH/PI students. AI/AN students only represent 0.4% of bachelor's and master's degrees and only 0.1% of doctoral degrees conferred.
- **Tech Workforce:** While the numbers support the case that Black and Latine professionals are largely excluded in tech, Native tech professionals are rarely even tracked. Of the 6 largest US-based tech companies reporting data, two have decreased Native representation since 2018.
- **Venture Capital:** Of \$156B invested into US-based startup companies in 2022, AI/AN and NH/PI founders received 9 investments towards their ventures, receiving only 0.02% of the total capital invested.

Demographic data: American Indian, Alaskan Native, Native Hawaiian and Other Pacific Islanders

To subvert the myth of the “**Vanishing Indian**” and provide context for data in subsequent sections of this report, we begin with demographic data about current **Native populations**. According to the most recent **census data**, **American Indian and Alaska Native (AI/AN)** people account for 2.9% of the US population,² growing 86.5% over the past decade. AI/AN people are represented across all 50 states, with the largest concentrations of AI/AN individuals in Alaska, Oklahoma, New Mexico, North and South Dakota, and Montana (Figure 1). The Cherokee tribe and Navajo Nation tribal grouping are the largest AI/AN tribes across the United States and Puerto Rico, with over 1M people (Table 1).

Native Hawaiian and Other Pacific Islanders

(NH/PI) comprise another 0.5% of the US population, with the greatest concentration on Hawaii (Figure 2) and the US territories of American Samoa, Guam, and Northern Mariana Islands. The Native Hawaiian, Samoan, and Chamorro groups comprise the largest NH/PI groups across the US and its territories, with over 1M people (Table 2).

² The US Census survey captures **self-reported identity** and not Native tribal enrollment and may be higher than the number of people who are able to access tribal, state, or federal programs designed for Native people.

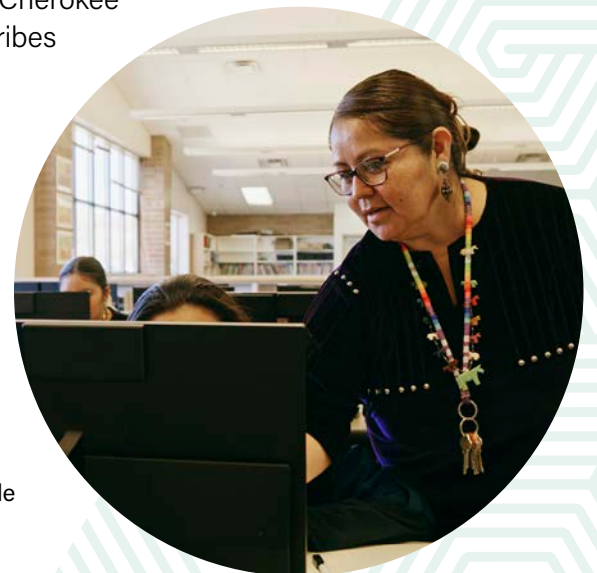
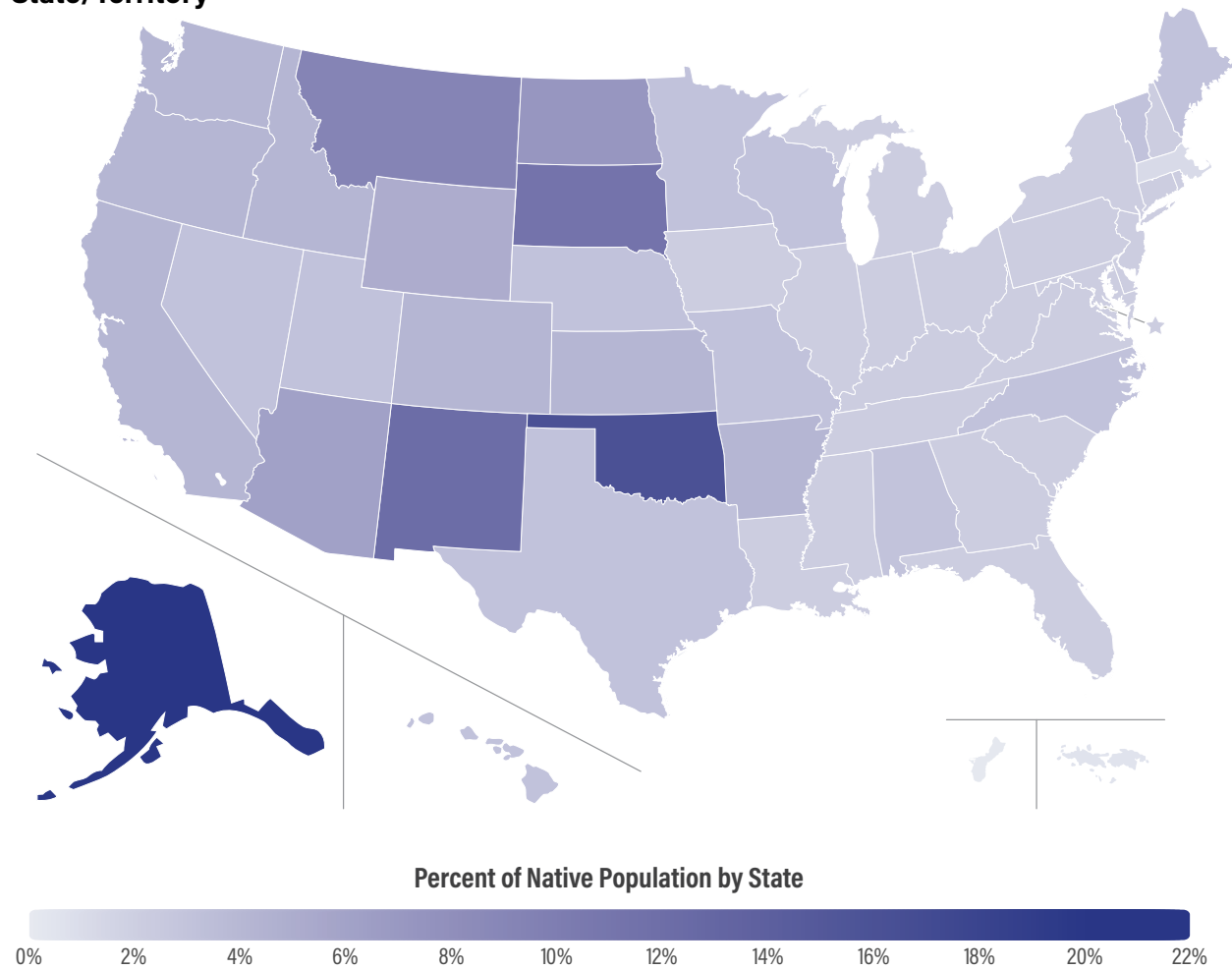


Figure 1. Percent of American Indian/Alaska Native Population Alone or in Combination, by State/Territory



Source: [US Census Bureau, 2020](#)

Table 1. Largest American Indian and Alaska Native Tribes in the United States and its Territories (2022)

Name of Tribe	N	Name of Tribe	N
1. Cherokee ³	1,449,888	6. Blackfeet	288,255
2. Mexican American Indian	875,183	7. Sioux	220,739
3. Central American Indian	634,503	8. Chippewa	206,224
4. Navajo	434,910	9. Apache	191,823
5. Choctaw	295,373	10. Creek	119,850

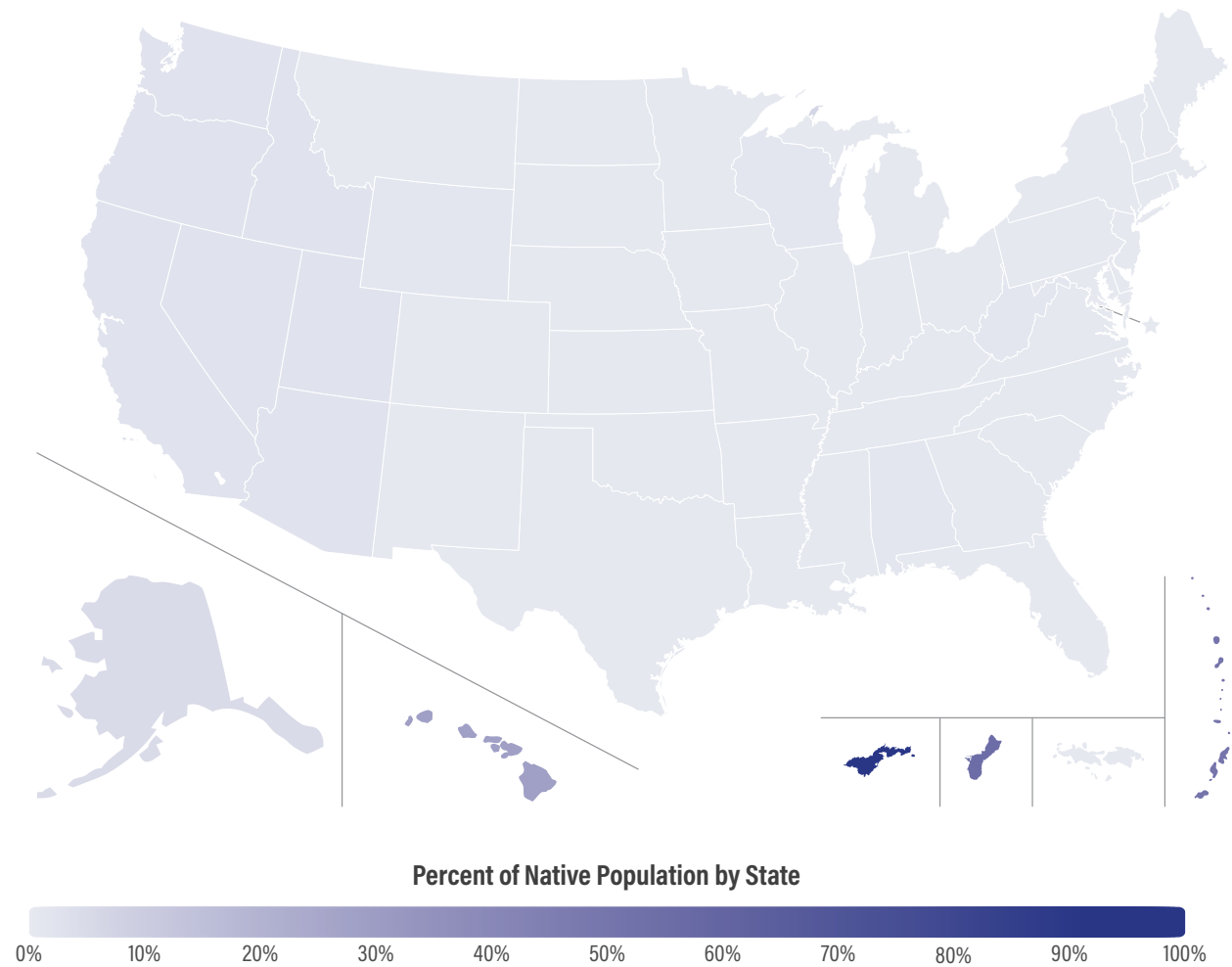
Source: US Census Bureau, [2022 American Community Survey 1-Year Estimates](#)⁴

³ Cherokee tribal affiliation may refer to enrolled citizens or descendants of the Cherokee Nation, Eastern Band of Cherokee Indians (EBCI), or the United Keetoowah Band of Cherokee Indians (UKB).

⁴ These figures are part of the latest detailed US Census release that uses a new respondent privacy policy that **prevents roughly 80% of tribes** from receiving the full suite of geographic and age data disaggregated by sex needed to improve reservation planning for residents.



Figure 2. Percent of Native Hawaiian/Other Pacific Islander Population Alone or in Combination, by State/Territory



Source: [US Census Bureau, 2020](#)

Table 2. Largest Native Hawaiian and Other Pacific Islander Groups in the United States and its Territories (2021)

Group	N	Group	N
1. Native Hawaiian	680,353	4. Other Micronesian	92,887
2. Samoan	243,682	5. Tongan	78,496
3. Chamorro	142,516		

Source: US Census Bureau, [2021 American Community Survey 1-Year Estimates](#)



K-12 Computer Science Education


The broader educational failures expand into the state of CS education as well. Not only are Native students less likely to have access to CS education, but when it is available, it **lacks cultural relevance** to meaningfully engage students and ensure their success in CS courses. Native high school students also lack access to infrastructure essential to CS education, such as hardware, software, and broadband. In addition, students lack Native role models in CS; viable course sequence pathways; and CS curricular content and pedagogical practices reflecting the diversity of their cultures, practices, beliefs, and identities.

Computer science access and enrollment among Native K-12 students

Only 59% of Native students attend a **school offering CS**, and only 20% of high schools located on **reservations offer CS**. Moreover, while the College Board’s development of Advanced Placement Computer Science Principles (AP CS P) was developed with the purpose of broadening participation, the number of Native students passing the exam remains dismal. Despite Native students participating in AP CS P at a greater rate than AP CS A and at a rate equal to their representation in US high schools (see Figures 3, 4, & 5), less than half passed the exam (see Figure 6). The pass rates were even lower for AI/AN and NH/PI girls who must contend with myths about both Natives’ and girls’ CS aptitude in addition to the lack of representation in learning materials and consideration in instructional decisions; they were over two times more likely to fail the exam than white and Asian students.

Taken together, **these barriers** contribute to the alarmingly high rates of attrition and the exclusion of Native students in computing. Changing the status quo in computing education is imperative, especially during a time of **intensified Native genocide** and **accelerated economic loss** during COVID-19. Integrating Native knowledge, cultures, languages, and skills into educational contexts have already been shown to lead to Native students’ **survival in the context of colonial genocide, growth**

in self-confidence and enthusiasm about learning as well as growth in **interest in pursuing computing careers**. Furthermore, incorporating and reclaiming Native cultural knowledge and languages in Native students’ education is necessary to **support Indigenous education sovereignty**. Without shifting the mainstream approach to computing education, engagement strategies not centering Native students are inadequate and will continue to fail to create a sustained presence within the field.



"There is a lot that you learn in computer science, whether you didn't put the semicolon at the end, you didn't put parentheses or anything. There's a lot of things. You have steps you have to go through. And a lot of trial and error, and it involves a ton of critical thinking. And I feel like that helps me. It gives me more patience and it just helps me solve more problems in the real world."

— Native girl, **Seeding Innovation** program participant, 2020



Figure 3. Overall High School Population In Comparison to Participation Rates in Advanced Placement Computer Science Principles and Advanced Placement Computer Science A, by Race/Ethnicity (2022)

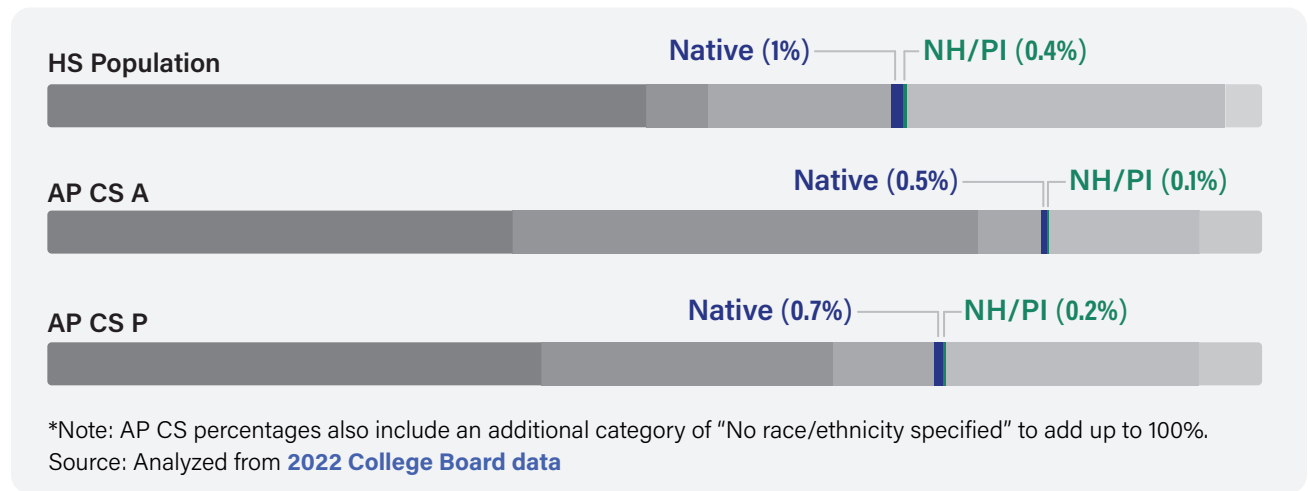
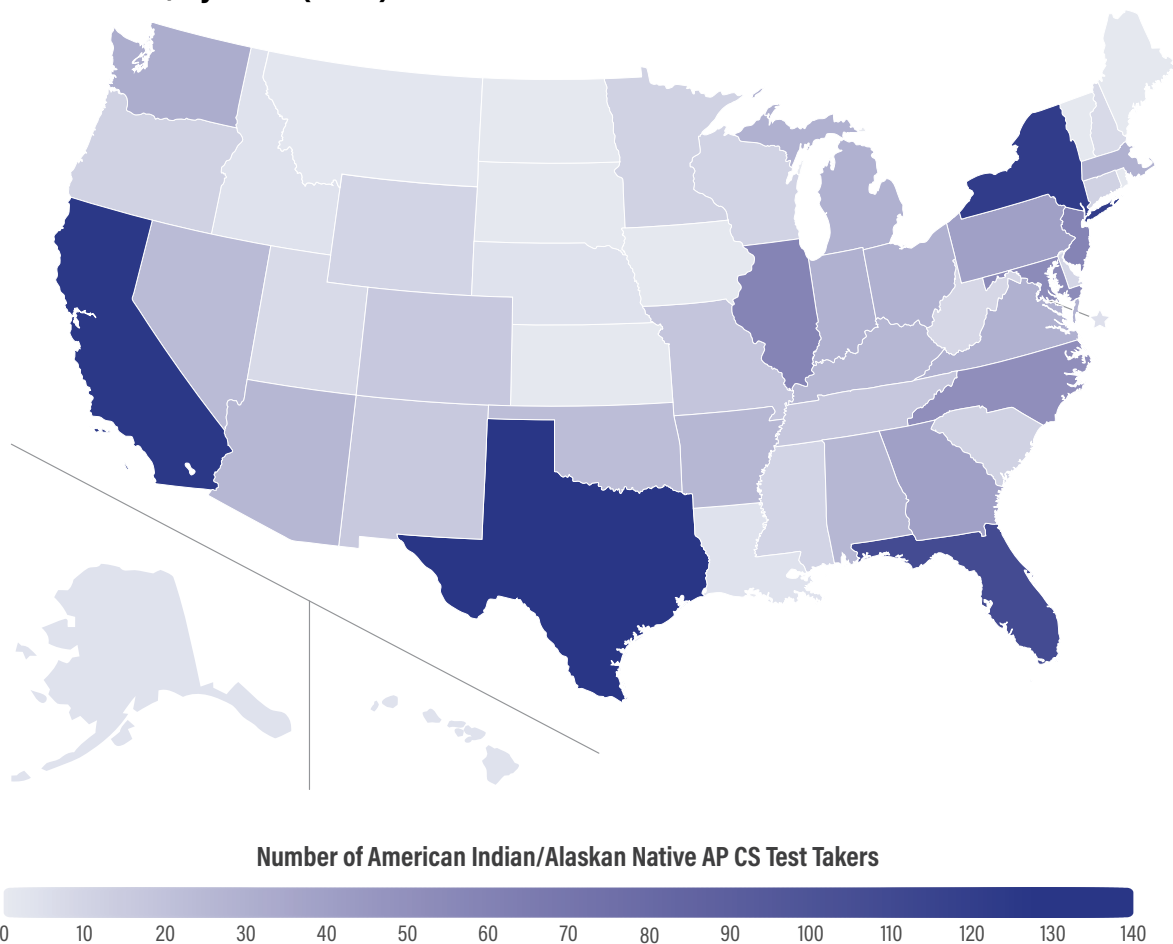


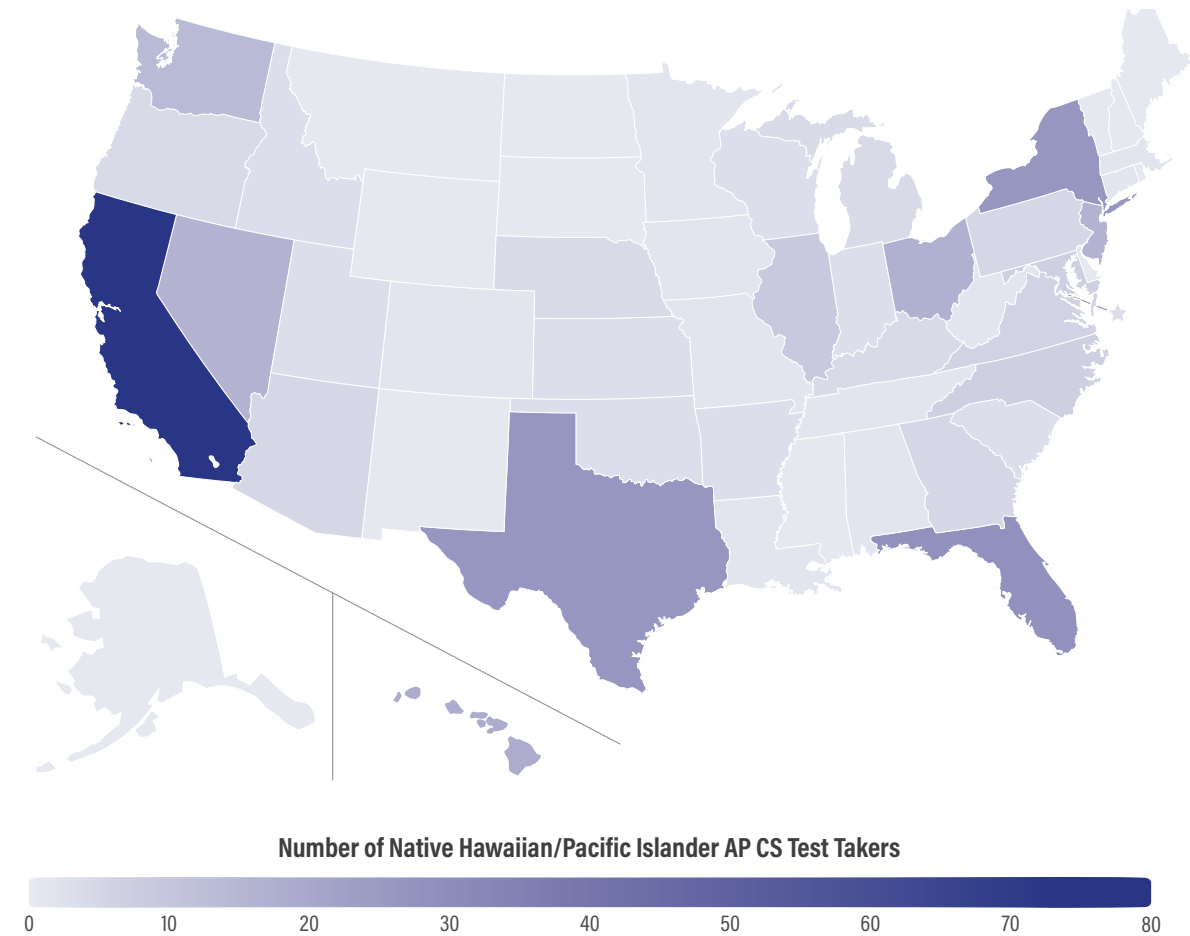
Figure 4. Advanced Placement Exam Participation Rates in Advanced Placement Computer Science Principles and Advanced Placement Computer Science A for American Indian/Alaskan Native, by State (2022)



Source: Analyzed from [2022 College Board data](#)



Figure 5. Advanced Placement Exam Participation Rates in Advanced Placement Computer Science Principles and Advanced Placement Computer Science A for Native Hawaiian and Pacific Islander Students, by State (2022)



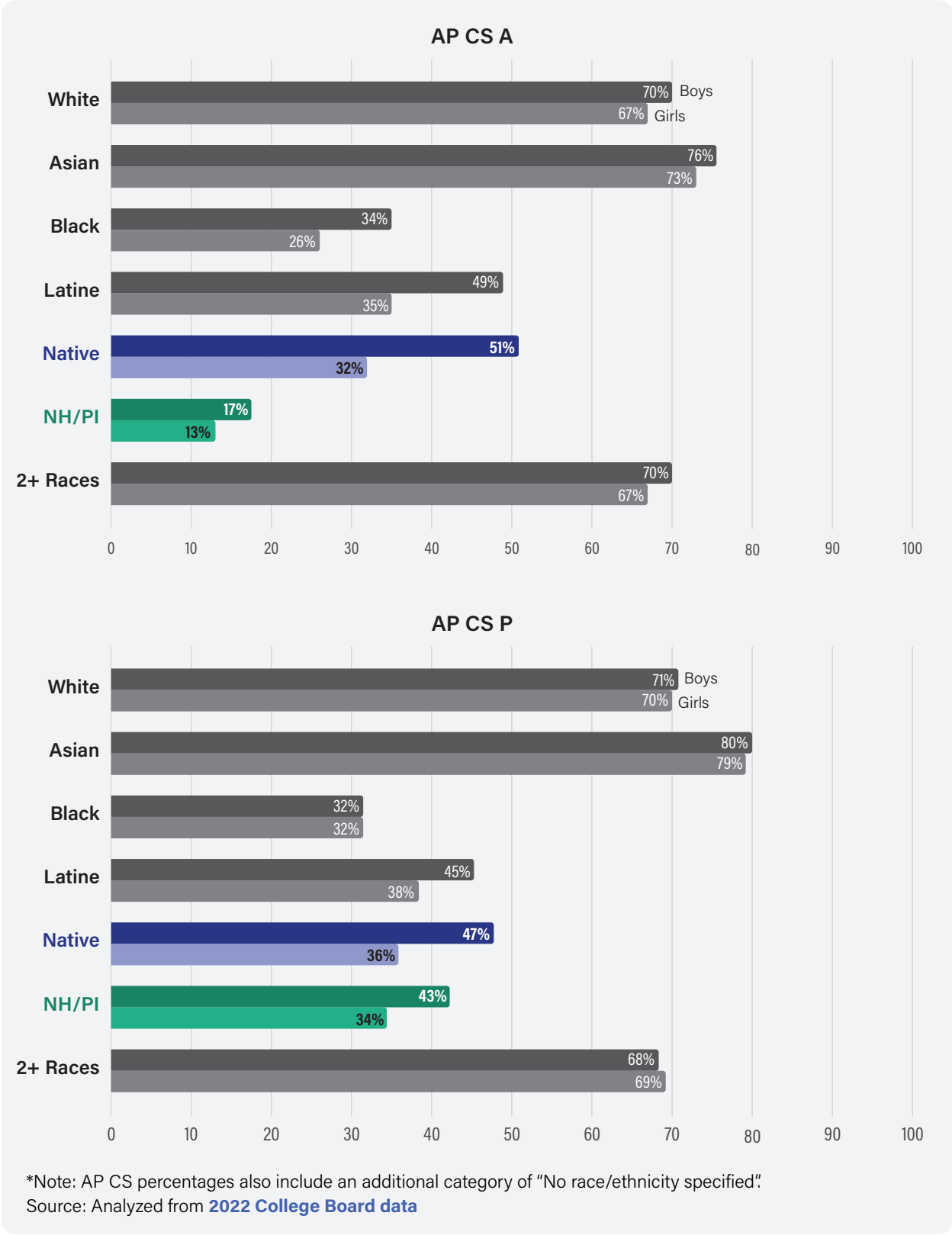
Source: Analyzed from [2022 College Board data](#)



K-12 Data Spotlight

Despite decades of broadening participation efforts, **only 312** Native girls participated in either AP CS courses. Of those, approximately **one-third** passed the exam.

Figure 6. Advanced Placement Exam Passing Rates in Advanced Placement Computer Science Principles and Advanced Placement Computer Science A, by Race/Ethnicity and Gender (2022)





Postsecondary Tech Pathways

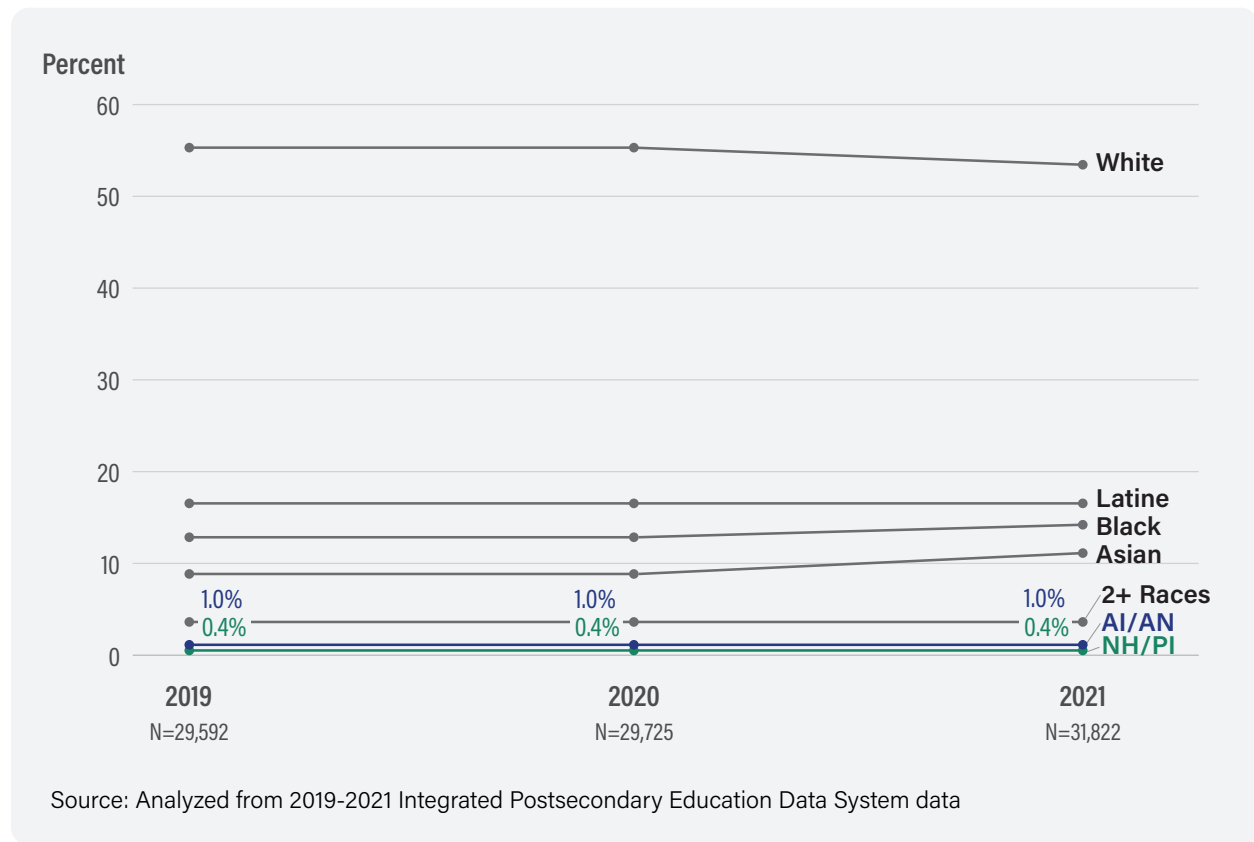
In alignment with the increased ubiquity of computing and technology across society, we have seen simultaneous growth in **CS degree completion** across all institutions. Enrollment in computing programs are recovering from the initial pandemic decline in 2020. However, data reveal that postsecondary institutions have not fared better than K-12 institutions in providing equitable access to CS education to Native populations. CS enrollment among Native students across all degree programs remains stagnant at both 2-year and 4-year institutions. These students continue to have a limited presence in these spaces due to broader **structural issues**, such as underfunding of institutions that serve greater proportions of Native students, a disconnect between computing education and tribal priorities, computing pathways driven by Western principles and values that erase Indigenous ways of technological knowledge, exclusionary enrollment practices and policies, and inaccessible resources and material misaligned with tribal needs and values. Without addressing structural barriers to enrollment in postsecondary computing pathways amongst Native communities, they will remain excluded from career paths promising economic stability.

The role of 2-year institutions in Native computing education

Between 2020 and 2022, enrollment data showed a 10% increase in associate's degree programs in CS. However, historical trends broken out by race/ethnicity have highlighted that the percentage of associate's degrees in CS conferred to Native students has remained stagnant at 1% for AI/AN students and 0.4% for NH/PI students. While 2-year institutions fare better than 4-year institutions at degrees conferred to Native students (see Figure 7), they continue to remain underrepresented in comparison to the national population (2.9% AI/AN and 0.5% NH/PI).



Figure 7. Race/Ethnicity Representation Among Associate's Degrees Conferred in Computing



The role of 4-year institutions in Native computing education

Meanwhile, Native students receive far fewer bachelor's, master's, and doctoral degrees in computing at traditional postsecondary institutions (see Figures 8, 9, and 10, and Table 3). The disconnect of Indigenous tribal values and traditions with westernized academic ways of thinking and values centered in computing departments across the nation's higher education institutions, as well as **structural impoverishment of Native peoples** and the traumatizing history of westernized and Christian-focused boarding school education inflicted on Indigenous peoples have led to a general mistrust of and reluctance to , and in many cases, inability to enter these institutions. AI/AN students only represent 0.4% at each level of bachelor's and master's degrees, and only 0.1% of doctoral degrees conferred. NH/PI students represent 0.2% at each level of bachelor's and master's degrees conferred, and 0.1% of doctoral degrees conferred. Given the development and financing of **land-grant campuses** originating from the land seized from 250 tribal nations, the nation's colleges and universities now have an obligation to address the needs of Native students.



Figure 8. Race/Ethnicity Representation among Bachelor's Degrees Conferred in Computing

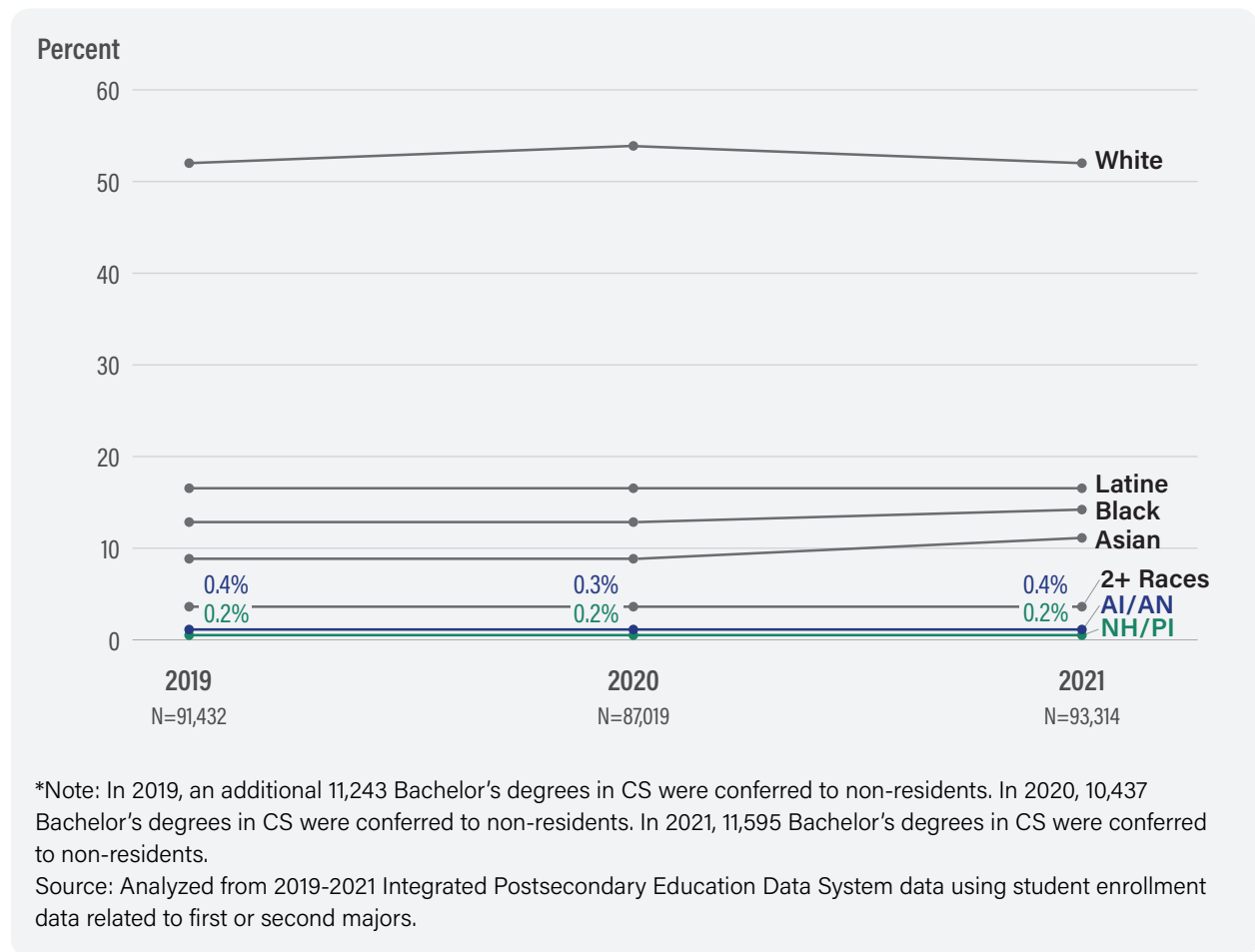
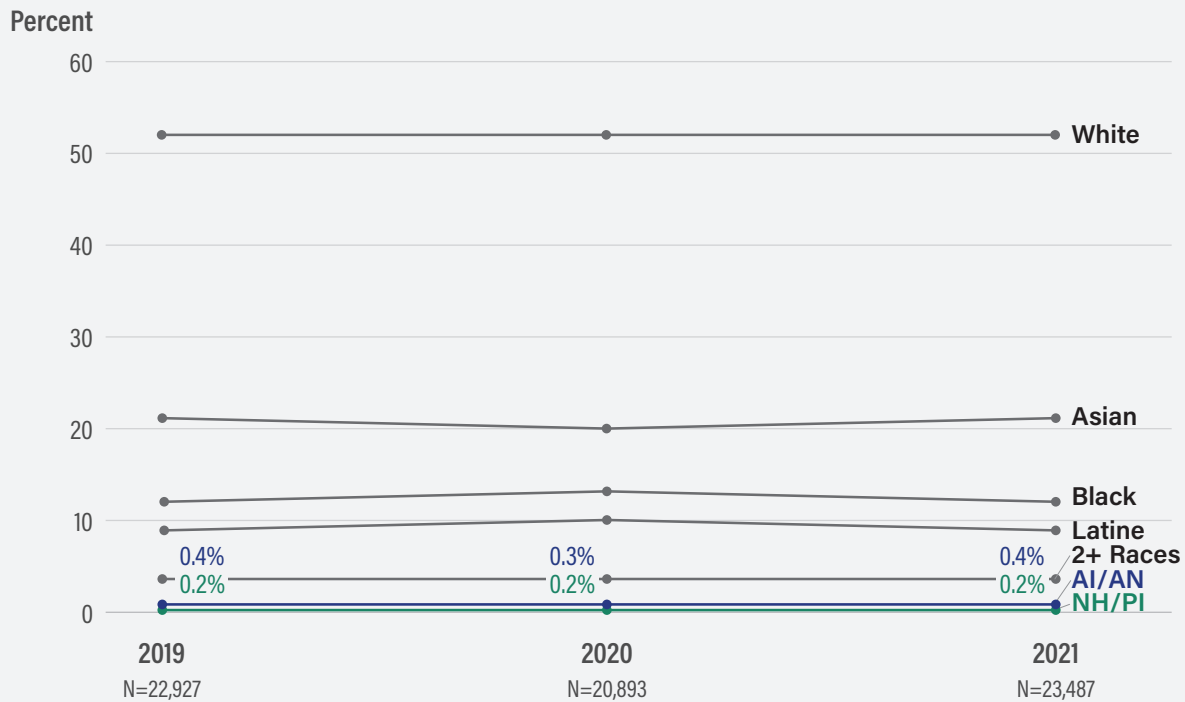


Figure 9. Race/Ethnicity Representation among Master's Degrees Conferred in Computing



*Note: In 2019, an additional Master's degrees in CS were conferred to non-residents. In 2020, 29,306 Master's degrees in CS were conferred to non-residents. In 2021, 28,893 Master's degrees in CS were conferred to non-residents.
 Source: Analyzed from 2019-2021 Integrated Postsecondary Education Data System data using student enrollment data related to first or second majors.



Figure 10. Race/Ethnicity Representation among Doctoral Degrees Conferred in Computing

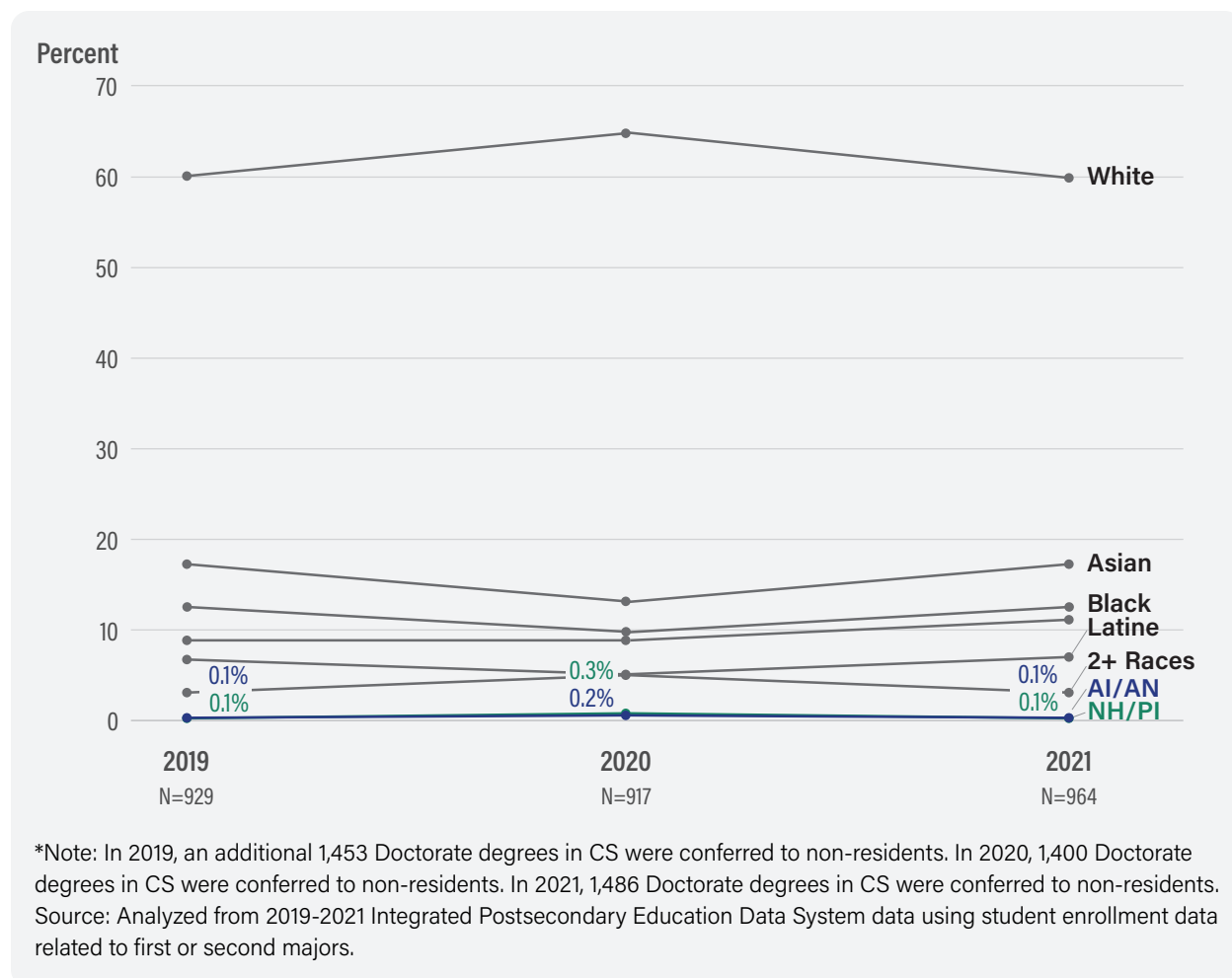


Table 3. Top US Colleges Conferring Degrees to AI/AN and NH/PI Students (2021)

Top 5 Colleges Conferring CS Bachelor's Degrees to AI/AN		Top 5 Colleges Conferring CS Bachelor's Degrees to NH/PI	
Name of College	# of CS Degrees Conferred	Name of College	# of CS Degrees Conferred
1. Western Governors University	56	1. Western Governors University	23
2. Northeastern State University	11	2. University of Maryland Global Campus	12
3. University of Maryland Global Campus	9	3. University of Phoenix – Arizona	8
4. Navajo Technical University	7	4. Grand Canyon University	6
4. New Mexico State University – Main Campus	7	4. Colorado Technical University – Colorado Springs	6
4. Arizona State University Campus Immersion	7		

Source: Analyzed from 2021 Integrated Postsecondary Education Data System data



The role of Tribal Colleges and Universities in Native postsecondary computing education

As a result of the pandemic, the **enrollment numbers** of Native students had declined across postsecondary institutions. **Tribal colleges and universities** (TCUs) can play a role in reversing these trends given the significant role they play in Native postsecondary education. Although they only represent 1% of all postsecondary degree-conferring institutions, **TCUs serve 12%** of all Native postsecondary students. Based on the premise that TCUs were founded by Native people for Native people as a means to maintain Native identity, language, culture, and sovereignty, they impact both the academic and psychosocial well-being of students. **Infusing culturally-relevant experiences** in the academic environment has been shown to improve Native students' sense of identity, belonging, and academic achievement within postsecondary settings. Native students who transfer from a tribal college to a 4-year institution are more likely to complete their degree, highlighting the **promise of tribal college education** in expanding access to the computing field within Native communities. See Table 4 for top TCUs conferring associate's and bachelor's degrees in CS.

Table 4. Top TCUs Conferring Associate and Bachelor Degrees in CS to Native Students (2021)

Name of College	# of CS Degrees Conferred	Name of College	# of CS Degrees Conferred
Navajo Technical University	11	Salish Kootenai College	5
Oglala Lakota College	6	Aaniiih Nakoda College	4
Southwestern Indian Polytechnic Institute	6		

Source: Analyzed from 2021 Integrated Postsecondary Education Data System data



Postsecondary Data Spotlight

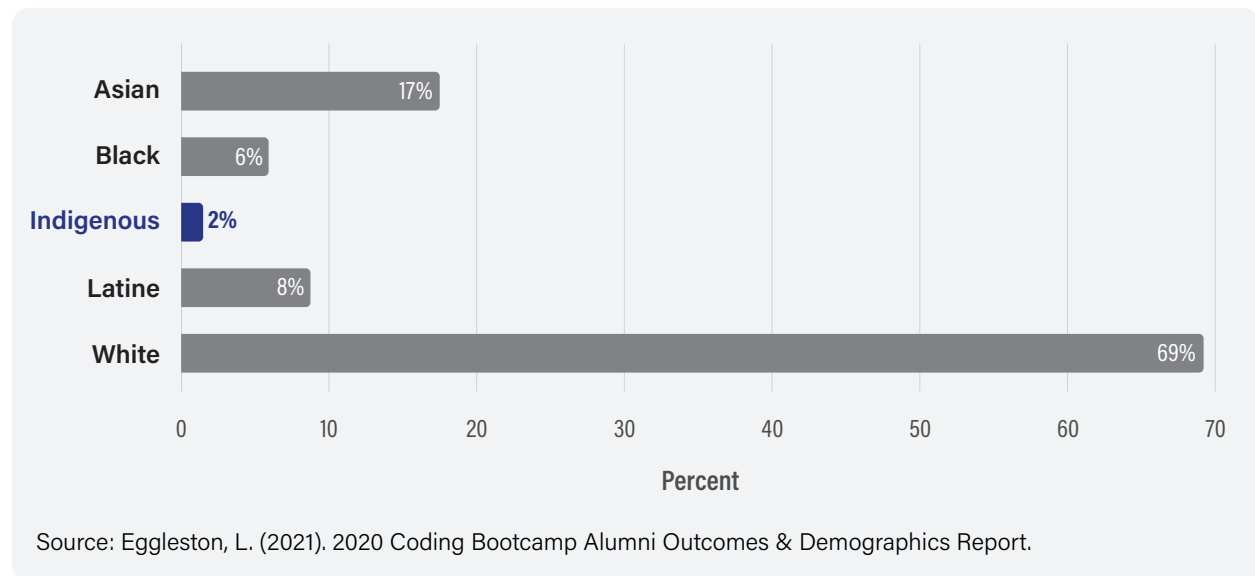
Of the CS degrees conferred to Native students, Native women received just:

- 106 Bachelor's Degrees
- 42 Master's Degrees
- 3 Doctoral Degrees

The role of alternative pathways in Native upskilling and reskilling in tech

As the **return on investment in higher education** continues to be questioned at the climbing astronomical costs to attend four-year institutions, alternative pathways have been marketed as a faster, more accessible, and financially feasible pathway into high-earning tech careers. And unlike institutions of higher education, they have fared better at recruiting a diverse pool of participants from historically-excluded communities (see Figure 11).

Figure 11. Race and ethnicity representation in bootcamps (2020)



The promise of a greater return on investment for bootcamps have also extended into apprenticeships. **Apprenticeships** rapidly enable bootcamp participants to transition into salaried technical roles, thus holding promise in connecting the Native workforce to the tech ecosystem. The number of registered apprenticeships across the US have grown by 25% across all fields within the last 6 years, and the number of registered technical apprenticeships have grown by a staggering 216% in the same timeframe (see Figure 12). However, only 1.1% of AI/AN and 0.6% of NH/PI apprentices are currently holding these roles, highlighting the need to improve outreach strategies to Native populations.

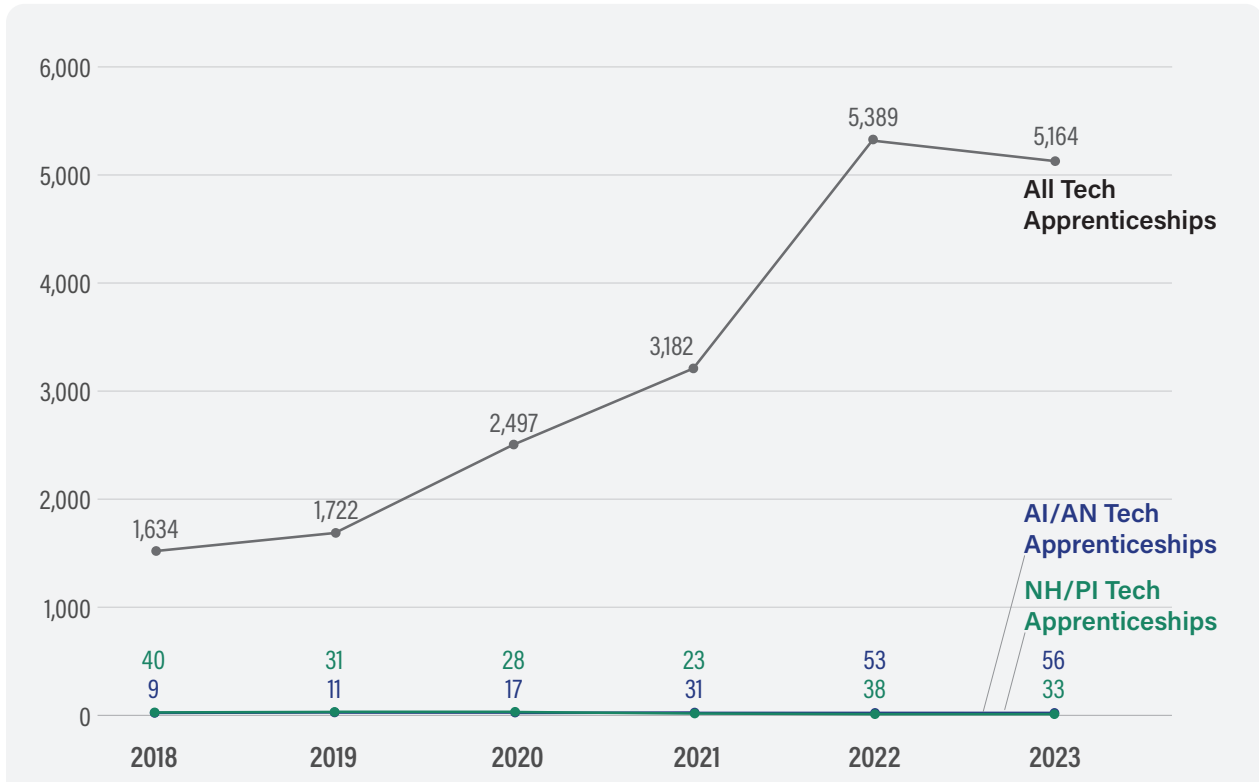




"I was a sophomore or junior in high school when they had a programmable calculator so that was my first exposure to tech. I was a nerd growing up which was a little unusual in the Native and Latino neighborhood I grew up in [in California]. My school wasn't prepared to teach technology; their tech program was dismal. I took one shot, one year at the University of Santa Clara which was kind of bittersweet. I loved it there but I wasn't ready for it. It required more discipline and more of a head start than I got in school. I majored in Computer Engineering. I then got into the workforce as a technician, and was in the SillyCon Valley tech world for nearly 50 years, working for 42 years at AT&T."

—Gregg Castro, T'rowt'raahl Salinan/Rumsien-Ramaytush Ohlone/Association Of Ramaytush Ohlone

Figure 12. Representation of AI/AN and NH/PI in registered tech apprenticeships (2018-2023)



Categories identified as "Tech" included occupation titles containing: Applications, Cloud Computing, Cybersecurity, Data Science, Database Administration, Information Technology, Networking, Programming, Robotics, and Systems Administration.

Source: Data retrieved in August 2023 from the [Registered Apprenticeship Partners Information Database System \(RAPIDS\)](#)





Tech Workforce

As calls for accountability regarding racial equity have grown louder in the tech industry, very little has shifted with respect to representation at the **board-**, executive-, or worker-levels. Between 2021 and 2022, representation of board members from across historically-excluded communities had increased from 6.2% to 10%. Yet, there were no board members of AI/AN descent and only one board member of NH/PI descent in the top 200 tech companies.

Representation in executive leadership positions in tech has stagnated. In the largest tech companies reporting on Native representation, only one (Intel) has been successful in getting more than 1% of Natives in leadership roles (see Table 5).



Table 5. Representation of Native Talent in Leadership Roles in the Largest US-Based Tech Companies (By Market Capitalization) (2022)

	Leadership Roles		
	Total	AI/AN	NH/PI
Alphabet	0.8%	-	-
Apple	0.4%	-	-
Cisco	0.0%	0.0%	0.0%
Intel	1.2%	1.0%	0.2%
Microsoft	0.3%	0.3%	0.0%

Source: Data from 2022 company diversity reports

And while the numbers support the case that Black and Latine professionals are largely excluded in tech, Native tech professionals are rarely even tracked. In the few companies reporting Native professionals in technical roles, the numbers have remained largely unchanged between 2018 and 2022 (see Table 6).



Table 6. Representation of Native Talent in Technical Roles in the Largest US-Based Tech Companies (By Market Capitalization) (2018-2022)

	2018			2019			2020			2021			2022		
	Total	AI/AN	NH/PI	Total	AI/AN	NH/PI	Total	AI/AN	NH/PI	Total	AI/AN	NH/PI	Total	AI/AN	NH/PI
Alphabet*	.6%	-	-	.6%	-	-	.6%	-	-	.6%	-	-	.7%	-	-
Apple*	1%	-	-	1%	-	-	1%	-	-	.5%	-	-	.5%	-	-
Cisco	.3%	.2%	.1%	.3%	.2%	.1%	.3%	.2%	.1%	-	-	-	.5%	.3%	.2%
Intel	.7%	-*	-*	.8%	-*	-*	1.2%**	.8%**	.4%**	1.3%**	.9%**	.4%**	1.2%	.8%	.4%
Microsoft	.8%	.6%	.2%	.7%	.6%	.1%	.6%	.5%	.1%	.6%	.5%	.1%	.6%	.4%	.2%
Twitter*	.4%	-	-	.4%	-	-	.3%	-	-	.3%	-	-	-	-	-

*Apple and Twitter report American Indian, Alaska Native, Native Hawaiian and Other Pacific Islander under a single "Indigenous" category. Alphabet reports American Indian, Alaska Native, Native Hawaiian and Other Pacific Islander under a single "Native American+" category. Intel does not disaggregate Native Hawaiian/Other Pacific Islander for 2018 and 2019 reporting, but rather has a "Native American" category.

**Data reported from Intel for 2020 and 2021 cover all roles (as opposed to specifically for technical roles).

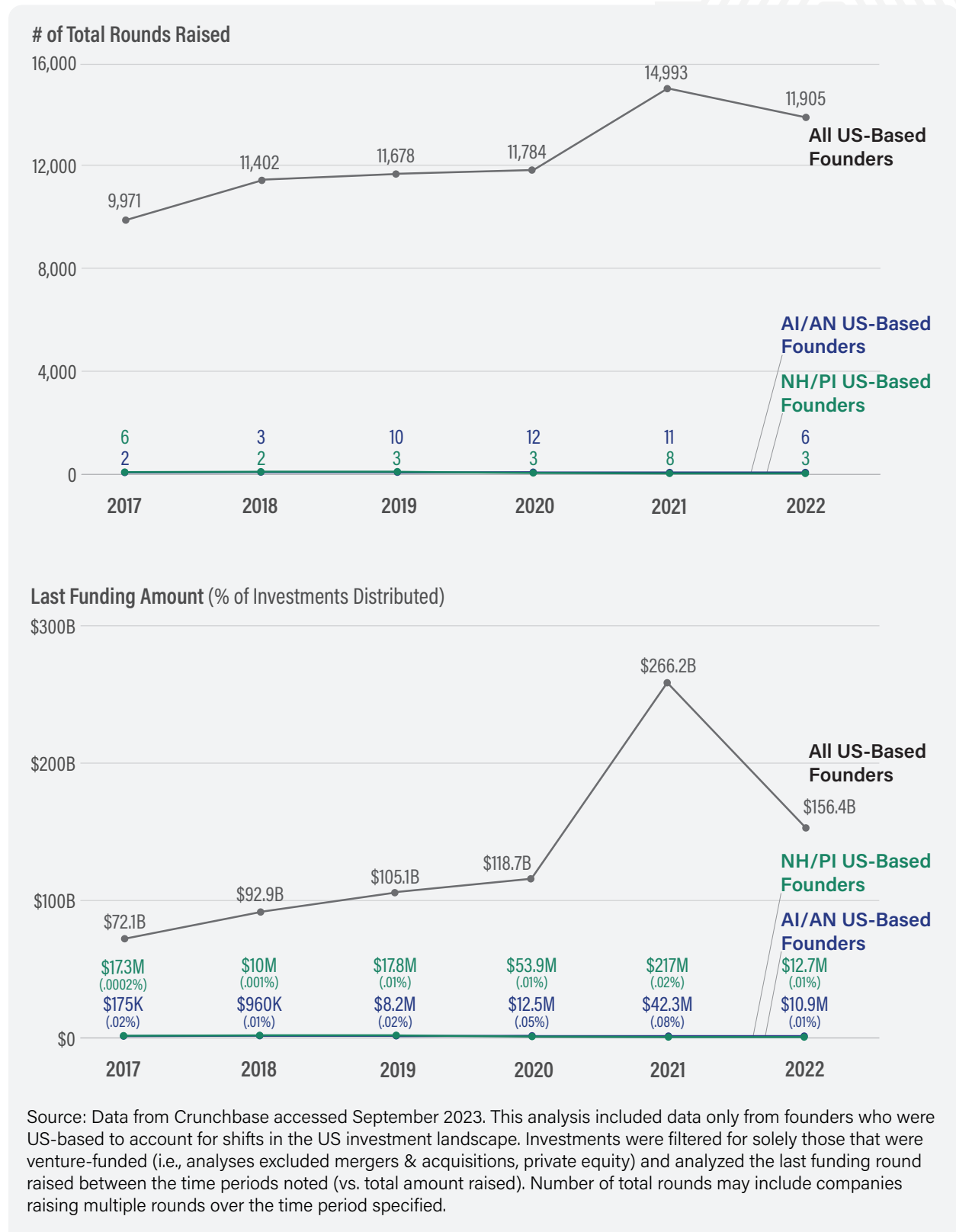
Source: Data from 2018-2022 company diversity reports

Entrepreneurship and Venture Capital

In 2022, close to \$200B was invested into US-based technology entrepreneurs. Yet, these investments have rarely been deployed to Native entrepreneurs (see Figure 13). In 2022, AI/AN and NH/PI founders raised \$23M in funding through 9 investments. This is a decrease from the prior year in total numbers of investments and total dollar amount invested (19 investments totalling \$259M—with one series D raise of \$200M). While the data show the need for specific strategies to reach these populations, a legal attack on race-based policies that started in higher education admissions have now **infiltrated entrepreneurship spaces**, raising concerns about greater equity challenges to come.



Figure 13. Venture Capital Investments between January 2017 and December 2022, Overall Total and Total Deployed to Native Entrepreneurs



Call to Action

Without a considerable and strategic investment in the inclusion of Native cultures, communities, and perspectives in efforts to build a more sustainable and equitable future, systemic barriers will continue to exclude Native communities. In contrast to previous investments that have failed to yield results, we are defining “considerable and strategic” as investments led by Native peoples with resources sufficient to address identified goals. As such, tech companies, higher education institutions, nonprofits, educators, government, policymakers, investors, and the philanthropic community must commit to implementing a broad set of recommendations that address the systemic failures in building the Native tech ecosystem.



Recommendations

Supporting Indigenous cultural and language reclamation, revitalization, self-determination, and repatriation: Over one half of a millennium of violent colonization and cultural repression have created complex and challenging economic, cultural, climate, and community health conditions for Native youth to survive and thrive in. Beyond recommendations specific to the tech ecosystem, colonizers and colonizing institutions must address ongoing harms of colonization, offer **conciliation**, and provide greater access to and full repatriation of Indigenous territories in order to ensure the survival of our people and **all life on our planet**. Our reciprocal connection to our territories is more than a physical reminder of our ancestral heritage; full tribal sovereignty and repatriation is the basis of our communities’ physical and **emotional health**, language ways, lifeways, foodways, medicines, spiritual well-being, and cosmologies. When we restore our stewardship of and co-thriving with our lands, all living beings benefit and can begin to heal from dispossession, oppression, and genocide.

K-12 CS Education: Significant investment is needed to address disparities in access to K-12 CS courses and ensure culturally revitalizing pedagogy and curriculum, contextualized to reflect the unique need and opportunities of Tribal Nations and communities.

- Increase funding for schools serving Native students, including the **Bureau of Indian Education** (BIE), towards: recruitment, training, and retention of Native educators and educators from within communities; infrastructure improvements to facilitate CS course offerings; and teacher professional development to integrate culturally responsive/revitalizing CS curricula throughout all curricula and to support culturally responsive pedagogical frameworks.
- Expand reliable, affordable, high-speed broadband to ensure Native students are equitably connected to the wifi needed for in-school and out-of-school educational and economic opportunities. This would include partnering with Native internet service providers (ISPs) and other stakeholders for both connectivity and device/hardware availability. Wherever possible, support tribal **spectrum sovereignty**.



- Invest in culturally responsive programs to prepare, support, and retain Native CS educators and administrators, to address the lack of representation in the CS teacher workforce, like the **Wounspekiya Unspewicakiyapi Native Teacher Education Pilot Program**.
- Credit STEM/CS teaching and education as a STEM role in datasets to acknowledge the computational competencies developed in order to teach STEM/CS subjects.
- Expand CS education across grades K-12 with a specific priority on closing gaps of access for Native students (including rural, low-income, and girls) by mandating foundational courses and access to advanced CS courses in all schools serving Native students, prioritizing CS as a graduation requirement, integrating CS across subjects, and providing funding to do so. **Seeding Innovation**, a collaboration between the Kapor Center and AISES, offers Native serving schools high quality, tribe-specific, culturally revitalizing CS curricula and professional development.
- Ensure adoption of culturally revitalizing CS pedagogical standards in teacher preparation, certification, curricular development, and professional development—all of which will ensure the pedagogy within the classroom embraces and validates the interests and cultures of Native students and supports the development of strong CS identities. Provide resources to non-Native educators to promote cultural competency, become better allies, and gain information about working with and in Native communities; **Redbud Resource** provides examples of resources and trainings.



Postsecondary Pathways: Given stalled progress from previous efforts, investments should be prioritized toward organizations, undergraduate programs, faculty, and universities with a track record of success in addressing financial and psychosocial barriers to entry and completion, recruiting and retaining Native students on postsecondary computing pathways, increasing the number of Native faculty in computing, and improving infrastructure required for computing paths.

- Increase long-term, sustainable investment in TCUs to repair the harms associated with historical and systemic discrimination and policies that impede access to resources and limit institutional capacity building, while investing in institutions with a track record of success and familiarity with Native communities and cultures. Ensure TCUs are prepared to meet the emerging technology needs of the global economy through the curriculum, course offerings and pathways, infrastructure, and research funding and opportunities.
- Increase investment in community colleges and address economic gaps facing two-year institutions. This investment must include modernization of curriculum to meet the current needs of high-demand jobs in emerging technology areas (e.g., **Turtle Mountain Community College's Cybersecurity program** led by a Native faculty member) along with maintaining an awareness of the jobs of the future and the future of work.

- Improve transfer processes from 2- to 4-year colleges and universities through strengthening partnerships and recruitment practices between institutions (particularly those serving high proportions of Native students); supporting the psychosocial needs of incoming Native transfer students integrating into new institutions; and eliminating financial barriers to transfer.
- Invest in inclusive, accessible, affordable, and eventually Native-led bootcamp and apprenticeship models which can provide skill development opportunities and credentials needed to expand the pool of Native talent entering and advancing in on-demand tech occupations.
- Address financial barriers to degree/credential entry and completion, including providing scholarships, financial incentives, and non-predatory income sharing agreements (ISAs) for Native students as well as revising federal incentive, loan, and grant programs to include alternative pathways.
- Improve entry and retention in CS majors through eliminating arbitrary barriers to the CS major, implementing equitable CS pedagogy and evidence-based teaching practices, and improving computing classroom climates and cultures.
- Address structural issues associated with the lack of Native faculty, particularly in the tenure-track ranks, in computing departments, through investments in scholarships, fellowships, and research awards.



Tech Workforce: In light of the failure of current recruitment efforts, employers must not only diversify their current recruitment strategies, but also partner with tribes given their role in professional development, job exploration, and job placement for their citizens.

- Set explicit goals for increasing Native representation, retention, and career progression. This means collecting comprehensive, intersectional data and committing to transparent data reporting, tracking, and internal accountability mechanisms.
- Elevate and promote stories about Native employees and their trajectories into tech on platforms that Native people and youth use: Facebook, Instagram, X, and Snap.

MMIW: As flagged by Abigail Echo-Hawk (Urban Indian Health Initiative), **poorly classified and analyzed data** about Native communities can dramatically underrepresent the numbers of murdered and missing Native people which hinders an appropriate scale of response to the ongoing violence of colonization and genocide for Native families. In light of institutional mismanagement of Native data and community concerns of systemic racism in existing reporting mechanisms, the **MMIW: We Demand More** report calls for greater Data Sovereignty.



- Learn about the tribes on whose territories current staff live and work. If available, take steps to rematriate/cede land back to those tribes or create cultural easements wherever possible at each operations site for surviving tribal members to practice their traditional ceremonies, feasts, and land stewardship practices. Many tribes now provide ways to support rematriation of land through **land taxes** and/or **land trusts**, including **other resources** needed to respect and extend tribal sovereignty.
- Intentionally expand recruitment to communities with Native talent, including TCUs, and provide hiring incentives for partners responsible for recruitment. Build systems to enable remote work and open hubs in areas with Native talent to reduce barriers for Native talent seeking to remain connected to their communities.
- Open job pathways to those skilled through alternative routes, including apprenticeships, by removing unnecessary degree requirements and screenings for skills and aptitude.
- Eliminate racial pay discrimination by eliminating salary negotiations, conducting regular pay equity audits, increasing pay transparency, and enforcing regulation to remediate pay disparities when they exist.
- Ensure the protection of Native workers from harassment and discrimination through whistleblower protections, the elimination of nondisclosure agreements, ability to unionize, and regulatory enforcement, when necessary.

Entrepreneurship and Venture Capital: To ensure Native entrepreneurs and investors create and support gap-closing technologies and benefit from wealth creation opportunities, increased investments must be made in developing early-stage entrepreneurs, supporting growth capital, and expanding the pool of Native investors deploying capital.

- Eliminate arbitrary and exclusionary barriers like requiring warm introductions or hiring investors from closed networks.
- Make concerted efforts to build pipelines of Native VC professionals and recruit new investors from diverse networks.
- Make deployment of capital to Native entrepreneurs and hiring Native investors a core priority; and similar to tech companies, commit to setting clear goals, collecting and reporting data, and implementing systems of accountability, including mandates for data reporting and portfolio and firm diversity.
- Provide resources to Native-led organizations supporting Native entrepreneurs, such as **Pow Wow Pitch**.



- Implement public sector initiatives and incentives to increase deployment of capital to Native entrepreneurs through investments in backbone organizations (like **Native Women Lead**), innovation hubs in Native communities, tech incubators/accelerators (like **Natives Rising**), SSBCI and SBA funding initiatives, and investment in tribal colleges' entrepreneurship and commercialization programs.
- Cultivate partnerships with tribal colleges to strengthen tech commercialization programs to support curricular expansion for students and faculty to bolster innovation.

To progress on equity in the tech ecosystem, we must consider: 1) the degree of power Native peoples have within the tech ecosystem and 2) access to resources to create their own tech pathways without external interference. Platitudes about the importance of diversity without investment in it, calls to “engage” Native students or groups without a definition of engagement that is likely to lead to change, and continued pleas for partnership from an ecosystem hostile toward diversity is a failed experiment. Shifting funding to Native-led systems and groups, like tribal-led public schools and TCUs equipped to implement culturally relevant CS curriculum and develop Native technologists, is the appropriate strategy for action.

Suggested Citation

McAlear, F., Smith, T., DeerInWater, K., Koshy, S., Goins, R., Scott, A., & Novohatski, L. (2023). *State of Diversity: The Native Tech Ecosystem*. Retrieved from: <https://www.kaporcenter.org/native-tech/>.

Acknowledgements

The authors would like to express gratitude for the expertise provided by a number of colleagues and collaborators, including: Candase Chambers, Paul Bocalan-Lim, Marie Casao (Narragansett/**AISES**), Gregg Castro (t'rowt'raahl Salinan/rumsien-ramaytush Ohlone/**Association of Ramaytush Ohlone**), and Danielle Forward (Pomo, Yokayo, & Miwok Cloverdale Rancheria, CA/**Natives Rising**). We would also like to thank AnLar for creating the report's data visualizations and design. This project is generously supported by Mitch Kapor and Dr. Freada Kapor Klein.

Land Acknowledgement and Shuumi Land Tax Contribution

The Kapor Center headquarters is located on Chochenyo speaking Ohlone and Lisjan Ohlone territories in uptown Oakland, CA. We acknowledge this not only in thanks to indigenous communities who have held relationship with this land for generations but also in recognition of the historical and ongoing legacy of colonialism. Additionally, we acknowledge this as a point of reflection for us all as we work towards building and scaling liberatory practices for all who continue to be affected by colonialism and imperialism. Individuals, agencies, organizations, and businesses operating on Lisjan Ohlone territories and anywhere can join the Kapor Center in supporting their rematriation and cultural revitalization efforts by contributing to the **Shuumi Land Tax**.



About Us



The **Kapor Foundation** works at the intersection of racial justice and technology by removing barriers in order to make the technology ecosystem more diverse, inclusive, and impactful for communities of color. The Kapor Foundation is a recognized leader in the movement to transform the technology ecosystem by expanding access to computer science education, conducting research on disparities in the technology pipeline, supporting nonprofit organizations and initiatives, and investing in gap-closing startups and entrepreneurs. For more information on the Kapor Foundation and the Kapor family of organizations, SMASH and Kapor Capital, visit www.kaporcenter.org.



AISES is a 501(c)(3) non-profit professional association with the goal of substantially increasing American Indian, Alaskan Native, Native Hawaiian, Pacific Islander, First Nation and other indigenous peoples of North America representation in the fields of science, technology, engineering, math (STEM) and other related disciplines. For more information on AISES, visit www.aises.org.

The **Seeding Innovation Project** is a collaboration between the Kapor Center and AISES, funded by the National Science Foundation under Project #2049023. Seeding Innovation offers Native-serving schools high quality, tribe-specific, culturally revitalizing CS curricula and professional development, and is currently working in 6 high schools and Native communities. Learn more and apply to the [Seeding Innovation project here](#), or contact [Frieda McAlear](#) and [Marie Casao](#) for more information.



About the Native authors' affiliations

Frieda McAlear

Uvluasatqun! I am an Inupiaq person and I use any pronouns. As such I am a shareholder of the Bering Straits Native Corporation and a descendent of Unalakleet Native Village shareholders. My Inupiaq great grandmother, Nannie Anawrok, and her ancestors were from Inupiaq territories, coastlines, and riverways since time immemorial prior to American colonization. Her daughter, Frieda Riley, and my mother, Anna Joyce Riley McAlear, were born and raised in Unalakleet (Unalaqliq), Alaska. My mother and the majority of her generation in Unalakleet attended Mt. Edgecumbe School in Sitka, AK. I currently live and work on Narragansett territories in Providence, Rhode Island.

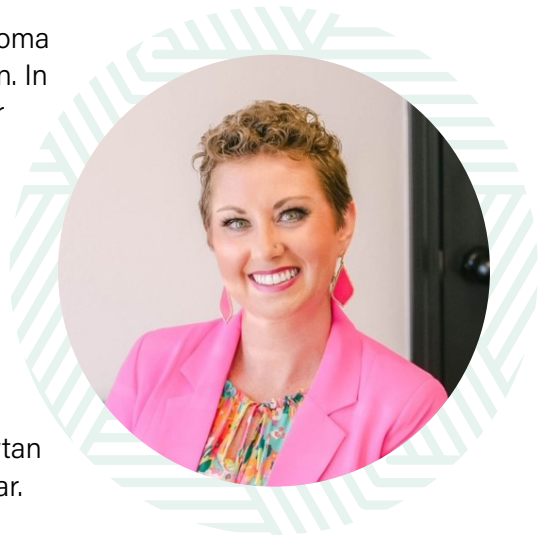


In my current role at the Kapor Center, I am the Director of Seeding Innovation, where I help to create and support the network of project activities and collaborations at the intersection of culturally revitalizing pedagogies and curricula and Computer Science education and research in Native serving schools. In 2018, I co-founded the Women of Color in Computing Collaborative (WOCCC) which funded rigorous research projects examining barriers, opportunities, and landscape data for women of color in computing.

Prior to working at the Kapor Center I completed a Master's of Science Research (MRes) degree at Queen Mary, University of London studying Danish whiteness and colonization in modern day Greenland after working for 4 years in Oxford, England for a small macroeconomic development consultancy as a programme manager. My Bachelor's of Science degree is from the Vrije Universiteit Brussel, Vesalius College, where I received an Honors degree for a thesis examining game theory research in Artificial Intelligence.

Tiffany Smith

Siyo! I am a citizen of the Tsalagi (Cherokee) Nation of Oklahoma and am also a descendent of the Mvskoke (Muscogee) Nation. In an effort to center my relations, I am the great-granddaughter of Sarah Still (Muscogee), granddaughter of George Lucas (Cherokee/Muscogee) and daughter of Diane Nelson (Cherokee/Muscogee) and Charles Nelson (English/German) of Midwest City Okla., where I was born and raised. I currently live in what is now known as Blanchard, Okla., which sits on the ancestral homelands of the Comanche, Kiowa, Osage, Quapaw, and Wichita and affiliated tribal nations. Today, 39 sovereign tribal nations call this territory of Oklahoma home. I live with my partner Zach, two children, Tytan (8) and Mya (3), and one-year-old corgi mixes Sage and Cedar.



In my professional capacities, I live out my heartwork serving as the Director of Research and Career Support for AISES. In this role, I manage several grant-supported research related projects and conducts collaborative and communal research related to Indigenous students and professionals in STEM disciplines. I provide oversight, strategic leadership, management, and overall direction of AISES' research and related projects as an integral part of the Programs Department. Furthermore, I am adjunct faculty at the University of Alabama at Birmingham in the Higher Education Administration graduate department, having taught Student Development Theory, Practical Issues and Challenges in Higher Education and a special course in Indigenous Methodologies.

Prior to coming to AISES in July 2021, I had worked for 16 years in various aspects of student affairs, including first-year experience and orientation, career development, diversity, equity and inclusion efforts, student engagement, and as adjunct faculty. I have presented nationally on Indigenous higher education topics for several national organizations, to include WEPAN (Women in Engineering ProActiv Network), NASPA (Student Affairs Administrators in Higher Education), NIEA (National Indian Education Association), NASAI (Native American Student Advocacy Institute), AERA (American Educational Research Association) and ASHE (Association for the Study of Higher Education). Additionally, I served as the National Chair for NASPA's Indigenous Peoples Knowledge Community from 2021-2023 and served on the NASPA Conference Leadership Committee for the 2021 and 2022 conferences. I served as a keynote speaker at WEPAN's 2022 Equity in STEM Convening in Washington, DC, and their virtual Women in Engineering Programming Day. One of my most proud moments was serving as a NASPA Undergraduate Fellows Program (NUFP) mentor to Robert Gonzalez, who now is starting his graduate education in student affairs at Texas A&M University!

My scholarship focuses on utilizing Indigenous methodologies and my Tsalagi (Cherokee) epistemology to decolonize academic spaces, particularly in STEM fields, as well as centering Indigenous student stories. My dissertation, entitled *Indigenizing the Academy: A Storytelling Journey to Native Student Success in Engineering* was awarded the 2021 NASPA Melvne D. Hardee Dissertation of the Year award. I hope my work will contribute to dismantling the deficit narrative and hold institutions accountable for providing culturally relevant support and space for Indigenous students.

As for my educational background, I completed a B.A. in Public Relations/Sociology, and an M.Ed. and Ph.D. in Adult & Higher Education/Student Affairs Administration, all from the University of Oklahoma. While working at the OU Gallogly College of Engineering for 11 years, I had the honor of serving as the founding Women in Engineering Program Director and as a proud AISES and SWE chapter advisor. I love my students and they are always family to me!



Kathy DeerInWater

Siyo nigada, I am Dr. Kathy DeerInWater, a citizen of the Cherokee Nation of Oklahoma, mother of three children, and wife to a Potawatomi man. My pronouns are she/her. I grew up in Tulsa, Oklahoma outside of the Cherokee Nation but close to my Cherokee grandfather on my father's side. On my mother's side I am 2nd generation Chinese American; however both of my Chinese grandparents passed on before I was able to really meet them. After moving around for most of my adult life in pursuit of higher education and careers, we are beginning to grow roots in Grand Rapids, Michigan homelands of the Anishinaabe and very close to my husband's Potawatomi Ancestors.



I joined AISES in October 2014 and completed my PhD in Ecology at the University of California, Davis in September 2015. As a long-time member of the AISES family, I bring first-hand experience and passion to AISES' mission of increasing the representation of Indigenous people in STEM studies and careers. In my role, I oversee program development, implementation, and evaluation for all AISES projects, serving our youngest students to senior-level professionals. I also engage in research to better understand the impact of AISES and more generally how Indigenous people succeed in STEM. Additionally, I am very passionate about uplifting and centering Indigenous knowledge and values in our education systems and workplaces and using both western and Indigenous science to strengthen tribal sovereignty and self-determination. I have been involved in CS education both in terms of curriculum development and capacity build and research throughout my time at AISES. In the past five years, AISES has sought to expand its PK12 programming to include culturally relevant and informed CS education to both share the opportunities within Tech among Indigenous students but to also communicate the importance and relevance of computing and tech on Indigenous communities and Tribal Nations.



Appendix

Glossary of terms

American Indian/Alaskan Native: The US Census Bureau collects race data in accordance with guidelines provided by the US Office of Management and Budget (OMB), and these data are based on self-identification. The OMB identifies an American Indian/Alaskan Native as a person “having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. This category includes people who indicate their race as “American Indian or Alaska Native” or report entries such as Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, or Nome Eskimo Community.”

Bureau of Indian Education (BIE): According to the [National Indian Education Association, the Bureau of Indian Education \(BIE\)](#) “is charged with providing quality education opportunities from early childhood through adulthood in accordance with the federal trust responsibility. The BIE funds and operates a total of 183 elementary, secondary, residential, and peripheral dormitories across 23 states. Currently housed within the Department of Interior, the BIE was originally created by the Department of War in the mid-19th century. Since that time, the BIE has overseen the nation’s legacy of Indian boarding schools and federally-funded schools, which now serve approximately 8% of American Indian students.”

Data sovereignty: The ability for Native tribes and nations to collect and analyze their own data as “derived from the inherent right of Native nations to govern their peoples, lands, and resources, which is acknowledged in treaties and other legal mechanisms ([NCAI, 2018](#)).” Cf [Collaboratory for Indigenous Data Sovereignty](#).

Indigenous: Indigenous refers to the original inhabitants of an area of the globe prior to colonization. As such it is an umbrella term created by colonization, not an ethnic or racial identity in the US. Whenever possible in a US context, it’s often more respectful for non-Native Americans to refer to Native peoples’ specific tribal identities rather than to use umbrella terms. Native, Native American, and Indigenous are used throughout this report to discuss issues pertaining to both tribally enrolled and non-recognized Indigenous people throughout the US.

MMIW/G: Murdered and Missing Indigenous Women and Girls (MMIW/G) campaign has been led by Native women leaders across Turtle Island (so called the US and Canada) to end violence against Native American and Indigenous women, girls, and people.

Native American: A 2019 National Congress of American Indians (NCAI) report defined American Indian and Alaskan Natives as “Persons belonging to the tribal nations of the continental United States (American Indians) and the tribal nations and villages of Alaska (Alaska Natives).”

The NCAI defines Native American as “All Native people of the United States and its trust territories (i.e., American Indians, Alaska Natives, Native Hawaiians, Chamorros, and American Samoans), as well as persons from Canadian First Nations and Indigenous communities in Mexico and Central and South America who are US residents.”



Colloquially, however, American Indian and Native American are used interchangeably to refer to tribally enrolled Indigenous people from territories within what is now called the United States of America. Individual Native people have preferences as to which term they use as many now regard the term Indian to be derogatory and inaccurate, especially when used by non-Indigenous people. Still others prefer to identify themselves through their tribal and/or clan identities and not as a “Native American” or “American Indian.”

None of these terms are **solely** racial terms although they are often used as such in surveys and in the Census.

Native Hawaiian/Other Pacific Islander: The US Census Bureau collects race data in accordance with guidelines provided by the US Office of Management and Budget (OMB), and these data are based on self-identification. The OMB identifies a Native Hawaiian/Other Pacific Islander as a person “having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicate their race as “Native Hawaiian,” “Chamorro,” “Samoan,” and “Other Pacific Islander” or provide other detailed Pacific Islander responses such as Palauan, Tahitian, Chuukese, Pohnpeian, Saipanese, Yapese, etc.”

Rematriation: From rematriation.com, “Rematriation is a powerful word Indigenous women of Turtle Island use to describe how they are restoring balance to the world...it means ‘Returning the Sacred to the Mother.’ Rematriation destabilizes the settler notion that the land is an object that can be taken away or returned as **Indigenous Knowledges are relational and connected to place in enduring ways.**”

Spectrum sovereignty: The right of tribes to create and manage the electromagnetic frequencies (e.g., radio, television, WIFI, etc.) that cross or interact with tribal lands. Recognizing and supporting the right of tribes to have greater access and control over the spectra of communications traveling through Indigenous lands will give tribal leaders the ability to expand their communications capacity and create the conditions for rematriation (return of lands and return of the sacred, reciprocal relationship with the land) and cultural revitalization.

Tribal Colleges and Universities: According to the [American Indian Higher Education Consortium](#), “**Tribal Colleges and Universities** (TCUs) are chartered by their respective tribal governments, including the ten tribes within the largest reservations in the United States. The 35 accredited TCUs operate more than 90 campuses and sites in 15 states—covering most of Indian Country—and serve students from well more than 250 federally recognized Indian tribes. TCUs vary in enrollment (size), focus (liberal arts, sciences, workforce development/training), location (woodlands, desert, frozen tundra, rural reservation, urban), and student population (predominantly American Indian). However, tribal identity is the core of every TCU, and they all share the mission of tribal self-determination and service to their respective communities.”