

THEO CROUCH, II

Curriculum Vitae

Merced, CA

E: tcrouch@ucmerced.edu

EDUCATION:

University of California, Merced

School of Engineering, Management of Innovation, Sustainability, and Technology (MIST)

Current Ph. D. Graduate Student Researcher

University of California, Merced, Merced, California

Ph. D. Management of Complex Systems, Current

University of California, Merced, Merced, California

M. S. Quantitative and Systems Biology, May 2019

California State University San Marcos, San Marcos, California

B. S. Computer Science, May 2013

AWARDS:

2021 Nomination for the Microsoft Research PhD Fellowship, UC Merced, School of Engineering, Management of Innovation, Sustainability, and Technology (MIST), July 2021

2021 MIST Bobcat Fellowship (Management of Innovation, Sustainability, and Technology), May 2021

2020 University Friends Circle (UFC) UC Merced, Community Service Organization Award, **The Q-Project at UC Merced**, May 2020,

2019 CCBM Spring Fellowship (NSF-CREST Center for Cellular and Bio-molecular Machines), October 2018

2018 CCBM Fall Fellowship (NSF-CREST Center for Cellular and Bio-molecular Machines), May 2018

2015-2016 CSU Louis Stokes Alliance for Minority Participation (LSAMP) – Outstanding Alumnus – Program for Recognition of Undergraduate Distinction, February 2016

2015 Quantitative Systems Biology USAP Summer Fellowship, April 2015

2015 NSF Graduate Research Fellowship Program Fellowship in Life Science – Bioinformatics and Computational Biology, March 2015

2014-2015 Graduate Fellowship Incentive Program Award, UCM, December 2014 ViaSat Undergraduate Summer Research, CSUSM, May 2012

2011 2nd Annual Center for Theoretical Biological Physics (CTBP)-CSUSM REU Summer Research Symposium, CSUSM, June 2011

2010 Summer Research Training Program (SRTP) – Achievement Award, July 2010

1992 United States Marine Corps (USMC) – Gulf War Veteran, Honorable Discharge, November 1992

1992 USMC – Commendation Medal, Certificate of Commendation, May 1992

1992 USMC – Good Conduct Medal, November 1991

RESEARCH EXPERIENCE:

Graduate Student Researcher

Management of Innovation, Sustainability and Technology (MIST) Graduate Group

Information Systems, Security and Privacy Lab

Complex Theory Research – applications and

development operations

Jun 2019 – Present

Graduate Student Researcher

Quantitative and Systems Biology Group

Protein Biophysics Lab

Molecular Dynamics Research – Simulation-enabled biology and biochemistry (atomistic)

Jul 2017 – May 2019

Population Genetics Lab

Genome Biology Research – Population Genetics

Jan 2017 – Jun 2017

Cancer Biology Lab

Cancer Biology Research – Computational Gene Mutation/Pathway

Aug 2013 – Dec 2016

Undergraduate Research

Genetics Lab

Gene Expression Research (SAGE) – Computer Science/Bioinformatics

Aug 2011 – May 2013

Undergraduate Research Shadowing

Genetics Lab

Lab Technician

Apr 2010 – Aug 2011

RESEARCH INTEREST:

Data Science/HPC – Workflow and solutions design development, automation (robotics process automation, RPA); data mining, formal data representation, comparison, classification, visualization, and inference; methods for analysis, applications; seeking to advance into larger and larger datasets within the fabric of societal and social relevancy (implementing math and science techniques) for the development and implementation of core attributes to accelerate growth cross-functionally.

PRESENTATIONS:

Theo Crouch, II, Andy LiWang, Michael Colvin. “Molecular Dynamics Simulation of KaiC” Center for Cellular and Biomolecular Machines (NSF-CREST CCBM) 2nd Annual CCBM Open House, Merced, CA, October 2018.

Theo Crouch, II, Andy LiWang, Michael Colvin. “Molecular Dynamics Simulation of KaiC” 62nd Annual Biophysical Society, San Francisco, CA, February 2018.

Stephen Wilson, **Theo Crouch, II**, Jianfei Qi, Fabian V. Filipp. “Transcriptional coactivation of androgen receptor activity by the epigenetic remodeler JMJD” UC Merced Research Week, Merced, CA, March 2015.³

Stephen Wilson, **Theo Crouch, II**, Jianfei Qi, Fabian V. Filipp. “Transcriptional coactivation of androgen receptor activity by the epigenetic remodeler JMJD” Fall QSB Retreat, Merced, CA, November 2014.³

Hizer, Suzanne, **Crouch, II, Theo**, Arango, Aurelio, Garcia, Denise, Zhang, Xiaoyu. “Web-Portal for the SAGE and EST Analysis Pipeline” Symposium on Student Research, Creative Activities, & Innovation, San Marcos, CA, February 2013.¹

Hizer, Suzanne, **Crouch, II, Theo**, Arango, Aurelio, Garcia, Denise, Zhang, Xiaoyu. “Data Extraction and Reduction of Ambiguity in Data Through the Use of Specialized Algorithms” Symposium on Student Research, Creative Activities, & Innovation, San Marcos, CA, February 2013.²

Hizer, Suzanne, **Crouch, II, Theo**, Arango, Aurelio, Garcia, Denise, Zhang, Xiaoyu. “Web-Portal

- for the SAGE and EST Analysis Pipeline” Plant & Animal Genome XXI, San Diego, CA, January 2013.
- Hizer, Suzanne, **Crouch, II, Theo**, Arango, Aurelio, Garcia, Denise, Zhang, Xiaoyu. “Web-Portal for the SAGE and EST Analysis Pipeline” ViaSat Undergraduate Summer Research, CSUSM, San Marcos, CA, August 2012.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” Student Research Symposium – Palomar College, San Marcos, CA, April 2012.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” Student Research Symposium – Mira Costa, Oceanside, CA, March 2012.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” Student Research Competition - CSUSM, San Marcos, CA, February 2012.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” Southern California Conferences for Undergraduate Research (SCCUR), Walnut, CA, November 2011.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” Annual Biomedical Research Conference for Minority Students (ABRCMS), St. Louis, MO, November 2011.
- Hizer, Suzanne, **Crouch, II, Theo**, Garcia, Denise, Zhang, Xiaoyu. “CSUSM Bioinformatics SAGE and EST Analysis Pipeline Project” 2nd Annual CTBP-CSUSM REU Summer Research Symposium - CSUSM, San Marcos, CA, July 2011.
- Crouch, II, Theo**. “Is Deodorant Strong Enough to Inhibit the Growth of Bacteria?” Summer Research Training Program (SRTP) - CSUSM, San Marcos, CA, July 2010.

¹Paper only presented and my name on the program at this symposium.

²Mentoring/shadowing student, Aurelio Arango, presented and my name and abstract on program at this symposium.

³Stephen Wilson, presented.

SELECTED HONORS:

Invited Speaker:

- Stanford University GEM Grad Lab, Graduate Student Panel, UC Berkeley, Berkeley, CA, October 2015
- Grant Writing Workshops: Applying for Graduate Fellowships, UC Merced Graduate Division GEARS (Graduate Enrichment & Advancement Resources & Services), Merced, CA, September 2015
- Tapas and Topics event, CSUSM (California State University San Marcos) Dean (College of Science Mathematics), San Marcos, CA, October 2012
- President’s Circle, CSUSM, San Marcos, CA, September 2012
- Dean’s Advisory Board, CSUSM (College of Science Mathematics), San Marcos, CA, September 2012

REVELANT SKILLS:

Technical Experience:

Bash (Intermediate)	Linux/Unix server (Intermediate)
C (Intermediate)	Lisp (Novice)
C++ (Intermediate)	Machine Learning (Beginner)
C# (Intermediate)	Matlab (Intermediate)
CSS (Intermediate)	MPI (Intermediate)
Cuda (Novice)	Perl (Intermediate)
Fortran (Intermediate)	Perl CGI (Beginner)
HTML (Intermediate)	PHP (Intermediate)
JavaScript (Intermediate)	Python (Intermediate)
Java (Intermediate)	R (Intermediate)

Qt (beginner)

Data Storage:

MySQL (Intermediate)

SQL (Intermediate)

XML (Intermediate)

AFFILIATION/MEMBERSHIPS:

Founder and President, **The Q-Project at UC Merced**, Fall 2014 - Present

President, Chi Alpha Christian Fellowship – CSUSM, Fall 2011- Spring 2013

Founding President, CSUSM SACNAS Chapter – The Society for Advancement of Chicanos and Native Americans in Science, Spring 2012

Dean's List, Fall 2011

Member, Phi Theta Kappa – International Honors Society for Two Year Colleges

Gulf War Veteran, United States Marine Corps

RELEVANT COURSEWORK:

Biomedical Responsible Conduct of Research (RCR) – Completion, March 2011

Summer Research Training Program (SRTP) - California State University San Marcos Office for Biomedical Research & Training (OBRT), July 2010

Certified Fiber Optic Technician (CFOT) - National Communications Training Center (NCTC), San Marcos, CA, December 2007

Network Cabling Technician - National Communications Training Center (NCTC), San Marcos, CA, December 2007

Supervisor/Management Counseling - 1 semester hour – USMC, October 1991

Communication Center Operator Course - USMC, 29 Palms, CA, May 1989