

# Xinyun Cao

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## Education

- ✦ **University of California, Berkeley** 2018.8-2022.5(expected)
  - > Major & Minor: Computer Science & Cognitive Science Major, Music Minor.
  - > Cum. GPA: **3.965** / 4.000.
  - > Related Coursework: Program Structure, Data Structures, Efficient Algorithms, Artificial Intelligence, Discrete Mathematics and Probability Theory, Information Devices and Systems, Optimization, Immersive Computing and VR technology, Computer Architecture, OS, Computer Graphics, Calculus.

## Skills

- ✦ **Programming:** Python, C#, Java, C, React Native, SQL.
- ✦ **Technology:** Git, Unity, OpenCV, Tensorflow, Maya, Adobe Audition, Max MSP.

## Work Experience

- ✦ **Software Engineer/ Pocket Gems** 2021/6-now
  - > Developed game features in Unity C# and made debug tools for developers. Incorporated LightRight and Data Infrastructure into the game. Migrated parameters to CSV files.
  - > Participated in company playtests and gave constructive feedback.
- ✦ **Software Developer / Geopogo** 2020/4-2020/8
  - > Implemented User Interface, login, and session system of a cooperative VR building software using Unity C#.
  - > Incorporated Identification system with Amazon Cognito and multiplayer network using Amazon GameLift.
- ✦ **Class reader / UC Berkeley** 2020/2-2020/8
  - > Classes: *Designing, Visualizing and Understanding Deep Neural Networks; Introduction to Artificial Intelligence.*
  - > Graded homework and exams. Tested exams and gave feedback. Answered questions on the class forum.

## Research Experience

- ✦ **Undergraduate Researcher / VR Prototype in BID (Mentor: Bjoern Hartmann; James Smith)** 2021/1-now
  - > Explored research directions, analyzed paper in areas like HCI, VR, Design and Prototyping.
  - > (Current) Implement the artifacts in Unity 3D, develop user study methods.
- ✦ **Researcher / ROAR VR (Mentor: Allen Y. Yang)** 2020/9-2020/12
  - > Implemented and tested localization function for *Robot Open Autonomous Racing* using OpenCV and Python.
  - > Built a virtual city using Unity3D and C# to overlap images collected by car mount cameras, and export into VR.

## Projects

- ✦ **Researcher / GAN Image Noise Cancellation** 2019/5-2019/8
  - > Researched about different Machine Learning deep neural network structures.
  - > Designed and implemented a model using Generative Adversarial Network in Python using Tensorflow.
  - > Generated a data set, trained the model and achieved a product that performs noise cancellation on images.
- ✦ **Designer, Unity Developer / Cognitive Training in VR Environment** 2019/8-2020/5
  - > Researched on paper about Cognitive Training for Traumatic Brain Injury patients.
  - > Developed a Dichotic Listening Training Program in VR using Unity 3D and C#.
- ✦ **Programmer / BearMaps** 2019/4-2019/5
  - > Used an open source codebase to implement a map system in Java, achieved functionalities like shortest path.
  - > Implemented Web API that enables exporting the map to website interface.
- ✦ **Mobile App Developer / Cal Hacks** 2019/10
  - > Developed a mobile app framework that involves interactivity and camera functionality using React Native.
  - > Implemented the channel of frontend and Firebase connection for further backend processing.

## Activities

- ✦ **External VP, Internal VP, Social Chair/ Upsilon Pi Epsilon** 2019/12-now
  - > Planned and organized social events to foster the CS community. Trained new members.
  - > Held academic office hours, academic advising sessions, resume critiques, and mock interviews.
- ✦ **Volunteer / Berkeley Food Pantry** 2019/5-2019/8
  - > Volunteered at Food Pantry, helped solve food insecurity among Berkeley students and staff.