

**Laura Cao**  
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## EDUCATION

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### UNIVERSITY OF SOUTHERN CALIFORNIA

*Expected Graduation May 2022*

- M.S. Electrical Engineering (Machine Learning and Data Science), GPA: 4.00
- B.S. Computational Neuroscience, Minors: 2D Art for Games, Computer Science, GPA: 3.86
- Awards: Magna Cum Laude, Presidential Scholar, Renaissance Honors, Dean's List 2017-2019
- Relevant coursework: Programming in Python, Discrete Methods in Computer Science, Data Structures and Object-Oriented Design, Introduction to Algorithms and Theory of Computing, Digital Signal Processing, Linear Algebra for Engineering, Probability for Electrical and Computer Engineers, Statistics and Data Analysis for Engineers, Random Processes in Engineering

## EXPERIENCE

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### ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING INTERN / DEEP VALLEY LABS

*February 2021 - Present*

- Investigate methods to improve artificial intelligence and machine learning
- Use Python, SQL, and Bash to complete project that quantifiably improved network performance
- Leverage Docker and HPC to perform simulations and experiments in an efficient way
- Collaborate using industry relevant tools and project management frameworks

### RESEARCH ASSOCIATE / ELLISON INSTITUTE FOR TRANSFORMATIVE MEDICINE

*May 2020 - Present*

- Fall 2020 Provost Undergraduate Research Fellowship recipient
- Research ways to use biological data more efficiently and effectively to further cancer research
- Complete project on analyzing spatiotemporal aspects of cancer metastasis by using machine learning and computer vision methods to segment and track cells in noisy live videos
- Collaborate with team to implement pipeline to preprocess and classify GB-size images in the cloud

### UNDERGRADUATE RESEARCHER / USC COMPUTATIONAL NEUROREHABILITATION LAB

*February 2019 - August 2021*

- 2019-2020 Undergraduate Research Associates Program grant recipient
- Design and improve experiments and collect data to investigate human health and behavior
- Collaborate with USC NPNL to research decision making using MCMC and other statistical analysis
- Work with USC Locomotor Control Lab to create lightweight model of arm muscle mechanics using relevant physiological data, hierarchical Bayesian modeling, and active learning

### COURSE PRODUCER FOR CSCI170 / UNIVERSITY OF SOUTHERN CALIFORNIA

*August 2020 - December 2020*

- Worked with professors to support students in CSCI170 (Discrete Methods in Computer Science)
- Hold weekly office hours to help students with learning concepts, solving problems, and studying

### PROJECT LEAD AND GRAPHICS LEAD / USC CENTER FOR AI IN SOCIETY'S STUDENT BRANCH (CAIS++)

*September 2019 - December 2020*

- Created graphics for recruitment, events, and sponsorships
- Work with team to develop tool to help scientists identify and classify different types of genomic data
- Led project to predict viral pandemic potential

## SKILLS

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- Languages: C/C++, Python, MATLAB, R, Stan, HTML/CSS/JavaScript, SQL
- Frameworks: Pytorch, Keras, TensorFlow
- Libraries: NumPy, SciPy, OpenCV, Scikit-learn, Matplotlib, Seaborn, Pandas, Optuna
- Applications: Adobe Creative Cloud, Microsoft Office, Google Drive
- Other: Linux, Git, Jira, Confluence, Docker