Jessica Chen

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Education

University of California, Los Angeles
B.S. Computational & Systems Biology
Concentration: Data Science
Minor: Statistics
Grad. June 2022 | GPA: 3.95
Awards & Grants: Knights Templar Eye Foundation Travel Grant, Society of Women Engineers Undergraduate Scholarship, UCLA Achievement Scholarship, UCLA Regents Scholar

Coursework

Computer Science
C++
R
Data Structures & Algorithms
Computer Architecture
Bioinformatics
Computational & Biological Modeling

Math
Probability
Experimental Design & Analysis
Data Analysis & Regression
Discrete Math
Multivariable Calculus
Differential Equations
Linear Algebra

Biology
Cellular & Molecular Biology
Genetics & Evolution
Physiology & Human Biology

Skills

Languages
Python (Tensorflow, Keras, OpenCV, PIL, NumPy, Pandas), C++, R, MATLAB, SQL

Software
Adobe Photoshop, Adobe Illustrator, IBM SPSS, Excel, GraphPad Prism, ImageJ, Tableau, Microsoft Office

Interests

Advancing healthcare through tech
Machine Learning
Big Data
Computer Vision
IKEA window shopping

Work

Machine Learning Intern | NASA Jet Propulsion Laboratory
October 2020 - Present
Working on computer vision and speech recognition technology using deep learning for paramedic emergency response.

Undergraduate Researcher | Advanced Robotic Eye Surgery Lab, UCLA
August 2019 – Present
Implementing a multi-class semantic segmentation model to segment the posterior capsule in optical coherence tomography (OCT) scans, to be implemented in a prototype for semi-automated robotic eye surgery.

Used MATLAB and traditional techniques in image processing to perform real-time image segmentation and data processing of OCT volume scans to model the retina and extract the coordinate of a certain feature with user input.

Undergraduate Researcher | Ocular Motility Lab, UCLA
October 2018 – August 2020
Implemented a U-Net using Tensorflow and Keras to automatically segment OCT blood vessels to help facilitate the identification of optic neuropathy biomarkers.

Independently conducted research, cleaned clinical research data and performed statistical analyses using SPSS and R, visualized data in GraphPad Prism and interpreted trends.

Collaborated with graduate students, international clinical fellows, and expert physicians on research projects resulting in poster presentations and 5+ publications, including 2 first-authored papers and acceptance into the annual Association for Research in Vision and Ophthalmology (ARVO) conference.

School

Publicity Director | Society of Women Engineers, UCLA Executive Board
April 2020 – Present
Managed all social media platforms, designed and presented all promotional media to advocate for diversity and mentorship of young engineers.

Event Manager | Society of Women Engineers, UCLA Mentorship Committee
September 2019 – April 2020
Brainstormed and coordinated mentorship events for students. Networked with industry representatives to speak at events, moderated panels.

Publications

1. **Chen JY**, Le A, Giaconi JA, Kouros N, Law SK, Bonelli L, Coleman A, Caprioli J, Demer JL. Orbital Fat Volume After Treatment with Topical Prostaglandin Agonists. Invest Ophthalmol Vis Sci. 2020 May [In Press].
2. **Chen JY**, Le A, De Andrade L, Goseki T, Demer JL. Compression of the Choroid by Horizontal Duction. Invest Ophthalmol Vis Sci. 2019 September [In Press].