JESSICA CHEN

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OBJECTIVE

UCLA student aspiring to extract actionable insights from big data and learn techniques in data science for the advancement of AI in healthcare, specifically in informatics and image processing. Interested in R&D.

EDUCATION

University of California, Los Angeles — Spring 2022
Major: Computational & Systems Biology (Data Science Concentration), B.S
Minor: Statistics
GPA: 3.95

SKILLS

Computer: Python, MATLAB, C++, R, PostgreSQL, Linux
Software: Excel, Adobe Photoshop, Adobe Illustrator, IBM SPSS, GraphPad Prism

RELEVANT COURSEWORK

Intro to R, Intro to C++, Data Structures & Algorithms, Multivariable Calculus, Linear Algebra, Differential Equations, Computational Approaches to Biological Modeling

EXPERIENCE

Advanced Robotic Eye Surgery Lab at Stein Eye Institute — August 2019 – Present
Undergraduate Researcher

- Scripting an algorithm in MATLAB 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, implemented in a prototype for robotic eye surgery.
- Utilizing averaging of image planes, Gaussian blur, polynomial fitting, and removal of outliers to reduce image noise and optimize segmentation.

Ocular Motility Lab at Stein Eye Institute — October 2018 – Present
Undergraduate Researcher

- Wrote Python scripts to process and segment blood vessels in cSLO images for ML.
- Cleaned clinical research using Excel 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.

ACTIVITIES

Society of Women Engineers at UCLA

Publicity Director, Executive Board — April 2020 – Present

- Managed all social media platforms, designed and presented all forms of promotional media to advocate for diversity and mentorship of young engineers.

Event Manager, Mentorship Committee — September 2019 – April 2020

- Brainstormed and coordinated mentorship events such as panels for students.
- Networked and communicated with industry representatives to speak at events, moderated and wrote prompts to direct the flow of the talk.

SELECTED PROJECTS

World Air Quality Index: Coronavirus Project — May 2020

- Accessed the WAQI JSON API to extract air quality data, wrangled the data using Python and GeoPandas, visualized the data using Matplotlib over time to show effects of reduced global mobility on air pollution.

OCT En Face Segmentation Project — March 2020

- Used OpenCV, PIL, Numpy, Matplotlib, and Skimage to locally threshold and segment en face images of the optic nerve and retinal vessels in order to compare the accuracy of traditional segmentation with that of machine learning.

PUBLICATIONS

- **Chen J**, 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 February [Accepted].
- **Chen J**, Le A, De Andrade L, Goseki T, Demer JL. Compression of the Choroid by Horizontal Duction. *Invest Ophthalmol Vis Sci.* 2019 September [Accepted, In Press].

AWARDS

Knights Templar Eye Foundation Travel Grant (2020), UCLA Regents Scholar (2018),

- UCLA Achievement Scholarship Recipient (2018), National AP Scholar (2018)