

Jessica Chen

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Education

University of California, Los Angeles (2018 - June 2022) GPA: 3.92/4.0

- B.S./M.S. Computational and Systems Biology (Biological Data Sciences Concentration)

Research

Advanced Robotic Eye Surgery Lab, UCLA (October 2018 – September 2020)

- Scripted an algorithm in **MATLAB** to perform real-time image segmentation and data processing of optical coherence tomography (OCT) volume scans to model the retina and extract the coordinate of a certain feature with user input.

Ocular Motility Lab, UCLA (August 2019 – November 2020)

- Implemented a U-Net using **Python** to automatically segment OCT blood vessels to 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, first-authored 2 publications.
- Collaborated with graduate students, international clinical fellows, and expert physicians on research projects resulting in poster presentations and 5+ publications.

Industry Experience

Illumina Data Science Intern (June 2021 - August 2021)

- Using NLP techniques to extract insight from unstructured medical record data to facilitate the clinical trial enrollment pipeline.

NASA Jet Propulsion Laboratory Research Intern (November 2020 – May 2021)

- Worked on vision and speech recognition technology using deep learning (YOLO, SSD) for first responder vehicle accident prevention.
- Implemented a retraining pipeline with Tensorflow's object detection API.

Conference and Journal Publications

1. **Chen JY**, Le A, Giaconi JA, Kouros N, Law SK, Bonelli L, Coleman A, Caprioli J, Demer JL. Peripapillary Atrophy (PPA) Indicates Optic Disc Stiffening in Primary Open Angle Glaucoma (POAG) without Statistically Elevated Intraocular Pressure (IOP). Invest Ophthalmol Vis Sci ARVO Annual Meeting Abstract. 2020 May [In Press].
2. **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].
3. Le A, **Chen J**, Lesgart M, Gawargious B, Suh SY, Demer JL. Reply to Comment on Age-Dependent Deformation of the Optic Nerve Head and Peripapillary Retina by Horizontal Duction. Am J Ophthalmol. 2020 April [In Press].

4. **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].
5. Le A, **Chen J**, Giaconi JA, Kouros N, Law SK, Bonelli L, Coleman A, Caprioli J, Demer JL. Optic Disc Deformation in Primary Open Angle Glaucoma with Peripapillary Atrophy. Invest Ophthalmol Vis Sci. 2019 August [Under Review].
6. Le A, **Chen J**, Giaconi JA, Kouros N, Law SK, Bonelli L, Coleman A, Caprioli J, Demer JL. Adduction Effects on Optic Disc and Peripapillary Region in Primary Open Angle Glaucoma with Normal Intraocular Pressure. Am J Ophthalmol. 2019 August [Under Review].
7. Le A, **Chen J**, Lesgart M, Gawargious B, Suh SY, Demer JL. Age-dependent Deformation of the Optic Nerve and Peripapillary Retina by Horizontal Duction. Am J Ophthalmol. 2019 July [In Press].

Presentations

- May 2020 - Association for Research in Vision and Ophthalmology Conference (ARVO)
- May 2019 - UCLA Undergraduate Research Showcase

Awards and Grants

- 2021 - Society of Women Engineers Undergraduate Scholarship Recipient
- 2020 - Society of Women Engineers Undergraduate Scholarship Recipient
- 2020 - Knights Templar Eye Foundation Travel Grant
- 2018 - UCLA Regents Scholar
- 2018 - UCLA Achievement Scholarship Recipient
- 2018 - Valedictorian, Prospect High School
- 2018 - National AP Scholar
- 2017 - National Merit Finalist
- 2017 - Scholastic Art & Writing Awards: Gold Key (Drawing and Illustration)

Leadership and Service

Publicity Director, Society of Women Engineers - UCLA Chapter (April 2020 - Present)

- Spearheading rebranding to prioritize cohesiveness, accessibility, and organization presence through design.
- Mentoring incoming freshmen majoring in engineering through individual meetings.

Event Manager, Society of Women Engineers - UCLA Chapter (October 2019 - April 2020)

- Recruited speakers, managed logistics, and moderated a panel on consulting for the mentorship program.
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