

Jonathan W. Chen

CONTACT INFORMATION

Ph.D. Student, Wong Lab
Department of Bioengineering
University of California, Los Angeles

E-mail: jwhc@ucla.edu
Social: Website LinkedIn GitHub

RESEARCH INTERESTS

Scientific applications of machine learning, human-in-the-loop learning, computer-assisted decision making, Bayesian methods, and active learning in medicine and biological systems.

EDUCATION

University of California, Los Angeles, Los Angeles, California, USA
Ph.D. Student, Bioengineering. Advisor: Professor Gerard C. L. Wong, PhD.

Washington University in St. Louis, St. Louis, Missouri USA

B.S. and M.S. Candidate, Computer Science with second major in Genomics and Computational Biology and minor in Bioinformatics. May 2020.

- Thesis Topic: “Rapid Generalized Psychometric Function Estimation with Active Learning”
- Advisor: Professor Dennis Barbour, MD, PhD.

AWARDS AND HONORS

Academic

Dean’s List, Spring 2018

Teaching

Computer Science and Engineering: Outstanding Senior Award, Spring 2019

ACADEMIC EXPERIENCE

Washington University in St. Louis, St. Louis, Missouri USA

Graduate Student

June 2018 - June 2020

Laboratory of Sensory Neuroscience and Neuroengineering *PI:* Dennis Barbour

- Led a project to develop active multi-dimensional, general psychometric function estimation with Gaussian Processes and Bayesian active learning. This includes the generalization of error function likelihood for guess and lapse rate classification problems and the extension of an existing uncertainty estimation function.

Head Teaching Assistant

August 2018 - June 2020

(1) Introduction to Data Science (2) Cloud Computing and Big Data

- Sharing administrative responsibilities with faculty instructor, fielding of student inquiries (120+ students), and coordinating a team of 10-15 undergraduate student teaching assistants and graders.
- Proposing, creating, and updating homework and in-class lab assignments. Grading of homework and exams.

Student Researcher

January 2017 - December 2017

Ding Lab

- Mined 11,000 cancer patient tumor genomes to study rare copy number variants and mutagenesis mechanisms.
- Automated and scaled analysis pipeline to be run either locally or on an IBM LSF computing cluster.

Teaching Assistant

January 2017 - May 2018

Computer Science II

- Assisted with lab studios and answered questions during office hours. Also helped grading of homework and exams.

PROFESSIONAL
EXPERIENCE

IBM, San Jose, California USA

Senior Software Engineer, Intern

June 2019 - August 2019

- Undertook user-facing web application development for a one-stop-shop, AI pipeline component sharing platform.
- Collaborated closely with AI and backend engineers to implement a user-interface exposing Kubeflow backend with React.

Stentor Technology, Walnut Creek, California USA

Full Stack Developer

June 2017 - December 2017

- Led the development and deployment of a token value exchange system via Solidity contract for Ethereum blockchain.
- Designed client-facing mobile app for customers to manage their token assets, including authentication, marketplaces, and transfer interfaces using React Native.
- Engineered robust REST APIs using Node.js and Express.js to interface between Transact-SQL database and front-end interfaces.

PUBLICATIONS

3. Calvin K. Lee, William C. Schmidt, Shanice S. Webster, **Jonathan W. Chen**, George A. O'Toole, and Gerard C. L. Wong. Broadcasting of amplitude- and frequency-modulated c-di-GMP signals facilitates cooperative surface commitment in bacterial lineages. *PNAS*. 2022
2. **J.W. Chen**, T. Larsen, M. Neumann. Exploring Unfairness and Bias in Data. *Proceedings of the AAAI Conference on Artificial Intelligence*. 2020.
1. M. Neumann, **J.W. Chen**. Introduction to Python for Data Science. *Proceedings of the AAAI Conference on Artificial Intelligence*. 2019.