

ETHAN HUNG

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EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

Sept. 2021 - Dec. 2024

Bachelor of Science, Computational & Systems Biology – Bioinformatics Track

- Graduated Cum Laude w/ Departmental Highest Honors (3.96 GPA)
- **Relevant Coursework:** Machine Learning & Modeling in Bioengineering, Algorithms in Computational Genomics, Molecular Systems Biology, Quantitative Regulatory Biology & Signal Transduction, Systems Biology & Mechanisms of Major Cardiometabolic Diseases, Biological Modeling: Mathematical and Computational Approaches

RESEARCH EXPERIENCE

Research Intern, Capra Lab at UCSF Bakar Computational Health Sciences Institute - San Francisco, CA

May 2023 - August 2023

- Conducted an independent project as part of the SRTP program mentored by Ph.D. candidate Grace Ramey, applying tensor methods on electronic health record (EHR) data to determine comorbidities of Alzheimer's disease.
- Selected relevant cohorts from the UCSF EHR database using SQL and R, before performing tensor decomposition to identify subgroups that varied phenotypically and temporally.

Research Intern, Lowe Lab at Memorial Sloan Kettering, Cancer Biology and Genetics - New York, NY

June 2022 - August 2022

- Conducted an independent research project mentored by Dr. Bryan Ngo examining proteomic differences during induced senescence using a doxycycline-inducible p53 shRNA model cell line derived from mice.
- Performed activity-based proteomic profiling involving cell culture & LC-mass spectrometry, before developing computational pipelines in R to quantify differentially-expressed protein conformations related to cellular senescence.

Undergraduate Researcher, Meyer Lab at UCLA Bioengineering - Los Angeles, CA

Sept. 2021 - Dec. 2025

- Collaborated with several Ph.D. candidates on four independent projects (including as part of the BIG Summer program), involving tensor factorization methods performed in Python and R to identify subject patterns across molecular measurement types, in infectious disease (pertussis, HIV, SARS-CoV-2) and cancer (breast, ovarian, lung) patients and cell lines.
- Developed a novel imputation-based approach for tensor decomposition algorithm and rank selection, demonstrated in several multidimensional datasets spanning systems serology to drug response data & culminating in a first-author manuscript in review. Later analysis resulted in a co-authored paper in NPJ Systems Biology.
- Performed cell culture and Luminex serology experiments on breast and ovarian cancer, followed by tensor decomposition and survival analysis performed in Python. Performed bacterial culture for protein purification & enzyme activity assays.

WORK EXPERIENCE

Automation Biologist, Protomer Technologies - Pasadena, CA

January 2025 - present

- Automated ELISAs for generating high-throughput molecular profiling of proprietary glucose-sensing insulins.
- Developed workflows integrating fluid handler robotics, Benchling, AWS scripting, and third-party machinery for automated data processing and analysis.

Orthodontic Technician Intern, Simply Orthodontics - Irvine, CA

June - August 2018, 2019, 2020

- Assisted orthodontic assistants and scheduled patient appointments ensuring optimal patient care.
- Learned technical skills required to sterilize tools, assist in minor procedures, run X-rays, take & edit diagnostic pictures, etc.

LEADERSHIP ACTIVITIES

Executive Director at UCLA Computational Biologists Society & UCLA Departmental Advisory Board

May 2022 - June 2025

- Served students in computational biology and adjacent fields by providing academic and professional resources while managing educational, volunteering, networking, and professional development events.
- Represented CaSB and other UCLA students on the official UCLA CaSB Department Advisory Board, working with faculty leaders to promote student engagement.

Health Fair & Public Affairs Committee at UCLA Asian Pacific Health Corps

Sept. 2022 - June 2024

- Assisted service providers at various health fairs to service medically underserved Asian and Pacific Islander communities in Los Angeles County, providing blood pressure, BMI, vision, & other screenings as well as educational outreach materials.

Review Board at UCLA Undergraduate Science Journal

Sept. 2021 - June 2024

- Reviewed and provided feedback to submitted research articles and contributed to the selection of articles for UCLA's Undergraduate Science Journal, a peer-reviewed publication registered with the Library of Congress.

PAPERS & PRESENTATIONS

Orcutt-Jahns, B., Lima Junior, J.R., Lin, E. *et al.* Systems profiling reveals recurrently dysregulated cytokine signaling responses in ER+ breast cancer patients' blood. *npj Syst Biol Appl* 10, 118 (2024). <https://doi.org/10.1038/s41540-024-00447-0>.

Hung, E., Hodzic, E., Tan, Z.C., and Meyer, A.S. Censored Least Squares for Imputing Missing Values in PARAFAC Tensor Factorization. *bioRxiv* 2024.07.05.602272; <https://doi.org/10.1101/2024.07.05.602272>. Under review at *Journal of Chemometrics*.

Hung, E., Tan, Z.C., and Meyer, A.S. Censored Least Squares for Imputing Missing Values in PARAFAC Tensor Factorization in Multidimensional Biological Datasets. Gulf Coast Undergraduate Research Symposium; 2024, Nov 8 - Nov 10; Houston, TX.

Hung, E., Loui, M., Chin, J., *et al.* Endogenous Anti-Tumor Antibody Variation as a Predictor of Ovarian Cancer Prognosis. Bruins In Genomics Summer Symposium. 2024, Aug 16; Los Angeles, CA

Hung, E., Face, C., and Yu, D.H. Is Osimertinib the New Medical ICU Miracle Drug? The Role of Osimertinib in Critical Illness for Patients With Metastatic EGFR Mutated Lung Cancer. *Am J Respir Crit Care Med* 2024;209:A6566. https://doi.org/10.1164/ajrccm-conference.2024.209.1_MeetingAbstracts.A6566

Hung, E., Ramey, G., Capra, T. Latent factor decomposition of electronic health records reveals Alzheimer's disease heterogeneity. National Conference for Undergraduate Research; 2024, April 8 - April 10; Long Beach, CA.

Hung, E., Ramey, G., Capra, T. Latent factor decomposition of electronic health records reveals Alzheimer's disease heterogeneity. Southern California Conference for Undergraduate Research; 2023, Nov 18; Fullerton, CA.

Hung, E., Tan, C.Z., and Meyer, A.S. A Comparison of Imputative Fidelity Among PARAFAC Dimensionality Reduction Algorithms. UCLA URW Undergraduate Research & Creativity Showcase; 2023, May 23; Los Angeles, CA.

AWARDS & RECOGNITIONS

Barry M. Goldwater Scholar

May 2024

- Prestigious national scholarships recognizing ~400 of the most outstanding undergraduate researchers in the United States, awarded upon merit of a research grant proposal and prior research experience.

Amgen Scholar

June 2023

- Selected for the international Amgen Scholars program, conducting biological research at an affiliated university (UCSF).

UCLA Undergraduate Research Fellowship

June 2022

- Research award & professional development program for thirty exceptional UCLA undergraduates conducting research.

Sonia Moseley Family Scholar

August 2024

- National scholarship supporting students for their commitment to diversity and impactful contributions to patient care.

SKILLS

- Wet Lab Skills:** cell culture, bacterial culture, protein purification, ELISA, Luminex, LC-mass spectrometry, confocal microscopy, flow cytometry, spatial transcriptomics
- Dry Lab Skills:** HPC scheduler & bash scripting, data wrangling, machine learning
- Computer:** Python, R, MATLAB, SQL, C++, AWS Lambda, GitHub, Linux, LaTeX, Microsoft Office, Adobe Illustrator