Simon Austin Lee

GENERAL INFORMATION

Address: 5254 Ambleside Drive, Concord CA 94521
Email: simonlee711@gmail.com
Personal Website: https://simonlee711.github.io/
Phone: +1 (925) 448-5618

I am a current post-baccalaureate student studying in the department of life sciences at EPFL (Swiss Federal Institute of Technology). Although I have a bachelor's degree in Applied mathematics, I wanted to further diversify my academic profile and learn the foundational knowledge that is requisite in biological research. I have previous experience working with machine learning pipelines within healthcare systems (Electronic Health Records) and working with various single-cell genomic assays. My primary skills are in statistical/ machine learning, and data-driven modeling. I now wish to use my quantitative background to pursue a Ph.D. in biomathematics in the niche field of computational medicine at UCLA.

WORK EXPERIENCE

Institute for Quantitative and Computational Biosciences | UCLA June 2022 - August 2022
Computational and Genomic Analyst Intern

- Developed a novel methodology using machine learning to continuously and non-invasively predict blood pressure for patients in an ICU setting with Dr. Jeffrey Chiang.
- Gained valuable experience fine-tuning data science skills (data mining, big data, data wrangling) as well as working with large-scale data (4.4TB) and multicore computing.

UCSC Genomics Institue | Jonsson Lab Sept.2021 - June 2022
Undergraduate Researcher

- Experimented with a transformer deep learning model to predict modalities of a single cell using ATAC-seq and gene expression data.
- Compared various models in single-cell genomics to the current state-of-the-art models.
- Collaborated with Razvan Marinescu at MIT CSAIL and Vedu Mallela at Georgia Tech.

UC Santa Cruz | UCSC Mathematics Department Sept. 2021 - June 2022
Teaching Assistant

- Instructed a small group of students in Ordinary Differential Equations through weekly activities and mini-lectures on topics covered in the class.
- Learned to communicate high-level mathematics to students of different disciplines as levels of understanding

EDUCATION

École polytechnique fédérale de Lausanne, Switzerland (EPFL) | July 2024
School of Life Sciences
Masters of Science in Life Science Engineering with a specialization in Biological Data Science

University of California, Santa Cruz (UCSC) | June 2022 GPA: 3.85
Baskin School of Engineering (BSOE)
Bachelors of Science in Applied Mathematics

Simon Austin Lee

Notable coursework: Machine Learning for Bioengineers (EPFL), Neural Signals & Signals Processing (EPFL), Applied Data Analysis (EPFL), Artificial Intelligence (UCSC), Mathematical Modeling I, II (UCSC), Scientific Computing (UCSC)

ACHIEVEMENTS & LEADERSHIP EXPERIENCE

Summa Cum Laude & Major Honors | UCSC June 2022

Academic Honors

- I was awarded the Summa Cum Laude distinction for obtaining a University GPA of 3.7+ during my undergraduate studies.
- I was similarly given honors within my Applied Mathematics Degree for maintaining a 3.7+ during my core mathematics studies.

Camp Kesem | UCSC Aug. 2020 - June 2022

Treasurer & Counselor

- Camp Kesem is a college-run nonprofit organization where we volunteer our time year-round to fundraise and host a free summer camp for children whose parents are affected by cancer.
- As the treasurer, I managed chapter finances, filed company grants from local Santa Cruz non-profit businesses, and created budgets for all the expenses needed to host a summer camp.
- As a counselor, I managed a small group of campers by leading activities and providing a safe space for these affected children.

Slug Mentor Network Collective | UCSC Aug. 2021 - June 2022

Mentor

- Integrated three 1st year students to campus, post-covid by sharing campus involvement opportunities/activities as well as my personal experiences within the campus community.
- Led bi-weekly check-ins to see if students needed guidance in what classes to take, how to develop college study habits, & resources offered around campus.

SKILLS & INTERESTS

Software Skills:

- Python (Pandas, NumPy, Keras, Seaborn, Multiprocessing, Apache Spark).
- Unix Command Line (environment variables, shell scripting).
- Time series analysis, Fourier analysis, regression analysis, supervised learning & deep learning.

Interests:

- Healthcare, Mental Health, Blogging, Boston dynamics robotics & Photography