SUN AH LEE

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education

UNIVERSITY OF CALIFORNIA, BERKELEY | *class of 2021* *Aug 2017 – present*
B.A. Data Science, Minor in Computer Science • GPA: 3.41
Relevant coursework: Optimization Models*, Algorithms, Artificial Intelligence, Data Structures, Computer Architecture, Probability Theory for Data Science*, Principles and Techniques for Data Science, Discrete Math, Linear Algebra, Programming Fundamentals
**in progress*

experience

UC BERKELEY RISELab *June 2019 – present*
Undergraduate Research Assistant (Supervisor: Dr. Joseph Gonzalez)
- Developed sketch prototypes to improve Sketched-SGD, a distributed SGD algorithm that sends sketches rather than gradients for up to 40x communication cost reduction
- Implemented data structure (top-H count sketch) using Python and Pytorch that reduced L2 reconstruction error by 50% in simple non-distributed setting
- In process of building an optimizer using top-H sketch to test on deep learning models

BERKELEY CODEOLOGY *Jan 2019 – May 2019*
Project Leader
- Led two, 4-week projects for 10 club members to learn how to create an online personal portfolio
- Designed lesson plans on relevant UX topics and web development technologies, such as navigation design and HTML/CSS
- Worked one-on-one with students and received mentorship from club executives to improve teaching process

COMPUTER SCIENCE MENTORS *Jan 2019 – May 2019*
Junior Mentor for CS 70
- Taught 1-hour-long sessions twice a week to group of 4 students for CS 70 (discrete math pre-requisite for CS majors)
- Discussed topics such as logic, proof techniques, graph theory, probability, countability, and undecidability
- Reinforced content with the use of mini lectures and problem-based worksheets
- Helped students strengthen foundations to better approach more difficult concepts and problems

UC BERKELEY EECS DEPARTMENT; DIVISION OF DATA SCIENCES *Aug 2018 – present*
Reader for Data 100; former Academic Intern for CS 70 and Data 100
- As a reader, grade assignments and exams, construct rubrics, and assist at office hours for data science principles class with 900+ students, totaling 10 hours/week
- Cover topics such as machine learning algorithms, exploratory data analysis, regression, bias-variance tradeoff, and SQL
- As an academic intern, assisted at office hours 3+ hours/week for each class
- Aim to help students think critically about content and problem sets

THE DAILY CALIFORNIAN *Aug 2017 – May 2018*
Layout Designer
- Served daily student-run newspaper with readership of 35,000+ students, faculty and residents
- Layouted text and imagery on pages and collaborated on monthly creative spreads using Adobe InDesign, Ps, Ai

projects

HOMEBUDDY: FULL-STACK WEB APPLICATION (REACT, GOOGLE MAPS API, HTML/CSS) *Feb 2019 – May 2019*
- With a 4-person team, built an application that pairs users with "home buddies" to walk home safely from campus
- On the front end team, developed the client-facing side using React, Google Maps API and HTML/CSS
- Created sign-up/sign-in functionality, fine-tuned the buddy matching algorithm and designed user-friendly interface

SHAPE FROM STEREO (C, SIMD, OPENMP) *Sept – Oct 2018*
- Implemented a program that simulates depth perception by generating a depth map from stereo images
- Optimized performance and increased speedup by 6x using parallelism techniques

BEARMAPS (JAVA, INTELLIJ) *April 2018*
- Programmed a web-mapping application that outputs shortest path distances within Berkeley area
- Engineered rastering for correct tile selection and A* search algorithm to generate shortest distance between two locations

EXPLORING DATASETS: MACHINE LEARNING APPLICATIONS (PYTHON) *April 2018*
- With a team, constructed linear regression and k-nearest neighbors models and applied to datasets from UCI repository
- Analyzed graphs generated using matplotlib and submitted report for Data Science Applications Decal (INFO 98)

skills

LANGUAGES | Python, Java, C, HTML/CSS, JavaScript
LIBRARIES & PROGRAMS | Pytorch, SQL, pandas, matplotlib, Tableau • Adobe Creative Suite (Ps, Ai, Id, XD), Lightroom

INTERESTS | Machine learning, data science, CS theory, front-end development, CS education, photography