SUN AH LEE

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education

UNIVERSITY OF CALIFORNIA, BERKELEY | *expected graduation: May 2021* *Aug 2017 – present*
Computer Science, Data Science (Applied Math and Modeling Emphasis) • *GPA: 3.42*
Relevant coursework: Computer Security*, Algorithms, Artificial Intelligence, Data Structures, Computer Architecture, Data Science Principles and Techniques, Probability Theory, Discrete Math, Theoretical Linear Algebra*, Programming Fundamentals
**in progress*

experience & leadership

UC BERKELEY RISELab *June 2019 – present*
Research Assistant (Supervisor: Dr. Joseph Gonzalez)
- Developed sketch prototypes to improve Sketched-SGD, a distributed stochastic gradient descent algorithm that sends sketches of gradients for up to 40x communication cost reduction
- Designed and implemented data structure using Python and Pytorch that reduced L2 reconstruction error by 50% in simple non-distributed setting
- In process of testing and fine-tuning its performance on deep learning models

BERKELEY CODEOLOGY *Jan 2019 – May 2019*
Project Leader
- Led 4-week projects for 10 club members to learn how to build 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

PHI SIGMA RHO *Jan 2020 – present*
Vice President of External Affairs
- Executive board member of UC Berkeley Alpha Theta chapter of Phi Sigma Rho, a national sorority for women in engineering
- Maintains network with external corporations and other STEM organizations on campus
- Coordinates training for philanthropy, scholarship, and professional development programs

COMPUTER SCIENCE MENTORS *Jan 2019 – May 2019*
Junior Mentor for CS 70 (discrete math)
- Taught hour-long sessions twice a week to group of 4 students in CS 70, a pre-requisite class for CS major
- 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

UC BERKELEY EECS DEPARTMENT; STATISTICS DEPARTMENT *Aug 2018 – Dec 2019*
Academic Reader for Data 100; former Academic Intern for CS 70 and Data 100 (data science principles)
- As a reader, graded homework, projects, and exams and constructed rubrics for a data science class with 1000+ students, totaling 10 hours/week. As an academic intern, assisted at office hours 3+ hours/week for each class
- Covered topics such as machine learning algorithms, exploratory data analysis, regression, bias-variance tradeoff, and SQL

projects

IBM x DSS DATATHON FOR SOCIAL GOOD: BERKELEY CRIME ANALYSIS *Nov 2019*
- With a 3-person team, collected crime data from the city of Berkeley to identify trends, model crimes that occur closest to UC campus, and raise suggestions for Berkeley Police Department
- Leveraged pandas, scikit-learn, matplotlib, and Jupyter to run feature analysis and create data visualizations

HOMEBUDDY: FULL-STACK WEB APPLICATION *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

BEARMAPS: WEB-MAPPING APPLICATION *April 2018*
- Programmed a Java 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 *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, SQL, Javascript
LIBRARIES & OTHER SOFTWARE | Pytorch, pandas, scikit-learn, matplotlib, numpy, LaTeX • Jupyter, Git, IntelliJ, Tableau

INTERESTS | Front-end development, machine learning, theory, supporting women in STEM, photography