

Kunal Agarwal

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Education

University of California, Berkeley

M.S. Electrical Engineering & Computer Science

May 2022

- Adviser: Professor Aditya Parameswaran

B.A. Computer Science (Honors), B.A. Applied Mathematics (Emphasis: Data Science)

August 2021

Major GPA: 3.86/4 | Cumulative GPA: 3.87/4

- Computer Science Courses: Data Structures, Computer Architecture, Operating Systems, Algorithms/Intractable Problems, Algorithms in Computational Biology, Principles/Techniques of Data Science, Artificial Intelligence, Machine Learning
- Mathematics Courses: Linear Algebra, Discrete Mathematics, Multivariable Calculus, Probability Theory, Numerical Analysis, Abstract Algebra, Real Analysis, Complex Analysis
- Student Groups: Computer Science Mentors, Upsilon Pi Epsilon

Skills

Proficient: Python, C, Java, Pandas, MySQL, AWS, Git, Flask, Celery, gdb, Data Science Libraries (Scikit Learn, SciPy, Seaborn)

Familiar: GoLang, C++, HTML/CSS, Django, Javascript, Android SDK, PyTorch, Matlab, Sphinx, RabbitMQ

Experience

Virtualitics, Inc. (Pasadena, CA)

May 2021 - August 2021

Full Stack Software Engineering Intern

- Utilized backend tools such as Flask, Celery, and RabbitMQ to integrate *Predict* with Amazon Web Services.
- Completed projects including an automated scheduler (APScheduler), automated email alerts, and websocket connections.

RISE Lab (Berkeley, CA)

May 2020 - Present

Undergraduate Research Assistant

- Worked on *Lux*, a Python library extending Pandas for data visualization, under Doris Lee and Professor Aditya Parameswaran.
- Added several important features relating to backwards compatibility, history tracking, and test coverage with Pandas.
- Contributed to paper *Lux: Always-on Visualization Recommendations for Exploratory Data Science*.

UC Berkeley EECS Department (Berkeley, CA)

August 2019 - Present

Data 100: Undergraduate Student Instructor (TA)

- Head TA for Principles/Techniques of Data Science with over 1300 students (the largest upper division classes at UC Berkeley).
- Taught weekly lab and discussion sections of 30 students on topics including data visualization and analysis, data cleaning, regressions, classifiers, cross-validation, and more, in addition to holding weekly office hours.
- Responsible for various logistical duties including writing, proctoring, and grading exams, building and maintaining homework assignments, and leading a large staff of 50 TAs, tutors, and academic interns.
- Awarded the Outstanding Graduate Student Instructor Award, given to the top 10% of TAs across UC Berkeley.

Lawrence Berkeley National Laboratory (Berkeley, CA)

June 2019 - August 2019

Computer Science Research Intern

- Re-engineered and packaged IDEALEM, a novel data compression algorithm in C, under Dr. Alex Sim and Dr. John Wu.
- Used the compression algorithm to find anomalies in inputted data using a variety of clustering algorithms in Scikit Learn.

Projects

Coursestamp

February 2020

- Deployed using Flask, the web application allows users to pick an online course on Youtube and search for all occurrences of a certain keyword or phrase in the online course.
- Utilized caption data from Youtube and placed it into JSON files which are then parsed through upon a request.