Eric Gan

(925) 918-5296 | ericgan@berkeley.edu | eric-gan.github.io | github.com/eric-gan | linkedin.com/in/eric-gan

Education

University of California, Berkeley *Berkeley, CA*

B.S in Electrical Engineering and Computer Sciences, B.S in Business Administration, GPA: 3.7 *Expected Graduation: May 2021*

- **Coursework:** Data Structures, Algorithms, Computer Architecture, Operating Systems, Databases, Artificial Intelligence, Machine Learning, Deep Reinforcement Learning, Stochastic Processes, Convex Optimization, Quantum Computing, Information Systems, Calculus, Linear Algebra, Probability Theory

Skills

Languages Python, Java, Go, C, C++, SQL, Matlab, R, Assembly (x86 & RISC-V), HTML5/CSS, Javascript, Lisp/Scheme

Technologies numpy, pandas, matplotlib, scipy, requests, AWS, Flask, Kafka, RDBMS, NoSQL, Tableau, TensorFlow, Spark, PyQt5, Jupyter, Git, Unix, LaTeX

Experience

Citadel *Chicago, IL*

Software Engineer Intern *Sep 2020 - Present*

- Working with the Equity Quantitative Research (EQR) & Global Trading (GT) team to conduct research from large-scale data for the investment process.

Uber *San Francisco, CA*

Software Engineer Intern *Jun 2020 - Aug 2020*

- Worked with the Advanced Technologies Group (ATG) Rider Experience team to automate a rider start trip flow by developing a feature for delivering trip blocking items to the rider through automated cabin checks, effectively reducing both the number and cost of remote operator support sessions.
- Implemented the vehicle hardware state models using Protobuf as well as the entire view models, APIs, and logic for the backend push architecture using Golang and Kafka; this consistently assembles and pushes an updated trip blocking items payload to the mobile app.

Berkeley Artificial Intelligence Research Laboratory *Berkeley, CA*

Research Assistant *Jan 2020 - Present*

- Working under Prof. Anca Dragan and Dr. Andrew Critch on human-compatible artificial intelligence utilizing hierarchical dynamic Bayesian games.
- Implemented trajectory and interactive experiments to model human-robot collaboration through cooperative inverse reinforcement learning.

Amazon *Seattle, WA*

Software Development Engineer Intern *May 2019 - Aug 2019*

- Worked on the integration of PillPack, an online pharmacy service, into Amazon Pharmacy by improving the scalability and functionality of its existing services utilizing AWS infrastructure; expected to generate 2 billion dollars in revenue within the first year.
- Developed a pharmacy transportation AWS Fargate service utilizing ECS instances for the shipment of medications from fulfillment centers to customers.

PayPal *San Jose, CA*

Contract Consultant *Jan 2019 - May 2019*

- Implemented new business strategies towards data-driven projects within PayPal Innovation Lab to increase employee engagement and foster innovation.
- Utilized NLP topic modeling and various regression models on employee activity datasets to improve interaction within the existing system.
- Developed a Tableau dashboard for monitoring engagement and presented insights leading to development of PayPal's Global Innovation Tournament.

Schrödinger *New York, NY*

Software Engineer Intern *May 2018 - Aug 2018*

- Developed various features to improve user experience for a multiple sequence viewer in Python and PyQt5 and wrote corresponding unit tests.
- Implemented features for automating extraction of sequences from antibodies databases and pairwise global alignment of protein sequence groupings.

Projects

YouSearch | Tools: Python (pytube), AWS, Flask, HTML/CSS

- Developed a web application to search and navigate YouTube videos by directly outputting the times a given word or phrase occurs and overall sentiment.
- Utilized AWS S3 for storage, AWS Transcribe for automatic speech recognition and transcription of the video, and AWS Comprehend for sentiment analysis.

Settlers of Catan AI | Tools: Python (numpy, matplotlib), Jupyter

- Designed both single and multi agent policies for a playable Catan AI Engine that minimizes the number of moves to win using expected hitting time properties of discrete time Markov chains to learn the action corresponding to the lowest time.
- Won second prize for best project in EECS 126 (Stochastic Processes) final project presentations.

Global Employment Dynamics | Tools: Python (numpy, pandas, scikit-learn), KenLM, Jupyter

- Worked with Prof. Anastassia Fedyk and Dr. James Hodson in analyzing large textual data to predict a firm's performance from its human capital.
- Optimized and trained a Latent Dirichlet Allocation model to classify employees into primary and secondary skill-sets from skills listed on their resume.
- Configured a skill evolution model utilizing KenLM and time series analysis to forecast an employee's future skills given current skills and background.