Raguvir Kunani

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Education

UC Berkeley

- M.S. Electrical Engineering and Computer Science, Class of 2022 (GPA: 4.0, emphasis in Machine Learning)
- B.S. Electrical Engineering and Computer Science, Class of 2021
- **Relevant Coursework:** Machine Learning (A+), Deep Neural Networks, Deep Reinforcement Learning (A+), Operating System Design, Database Design, Internet Architecture/Protocols, Convex Optimization

Experience

Machine Learning Intern | *Bank of the West* *Jun - Aug 2020*

Python, SQL, scikit-learn, pandas

- Built a synthetic data generation pipeline that uses deep learning; my pipeline was put to use by multiple teams to generate data for machine learning projects and other projects involving sensitive data
- Implemented a tool in Python that speeds up EDW table partition maintenance queries from hours to seconds

Machine Learning Research Intern | *East Bay Community Energy* *Feb - May 2020*

Python, scikit-learn, pandas

- Improved the company's energy forecasting model by an estimated 6 points (about $3.5 million in annual savings) by implementing machine learning models (e.g. random forest, LSTM) to predict energy usage of 550,000+ customers
- Presented my work to VP of Technology and wrote a concise paper summarizing my approaches and results

Machine Learning Lecturer + TA | *UC Berkeley* *Jun 2019 - Aug 2021*

- Lecturer for the core upper-division data science course at UC Berkeley with 350+ students enrolled
- Increased retention of TA assistants from 0 to 95% by spearheading a mentoring and feedback system
- Earned a 4.75 / 5 rating from students for "overall teaching effectiveness" (the average TA earned a 4.3)

Master's Thesis Research | *UC Berkeley* *Aug 2021 - Present*

Python, PyTorch

- Studying how spectral properties of weight matrices relate to performance of state-of-the-art BERT models on new data
- Applied my research to predict (without access to data) which model out of a set is likely to perform best in production

Projects

Deep Neural Network Prediction Serving API (code)

Python, PyTorch, Flask

- Trained a BERT model to predict Yelp ratings to within a 0.2 stars and deployed the model on the cloud as a REST API
- Reduced response latency from 10+ secs to 100 ms by applying optimizations like model distillation and quantization

Pintos Operating System

C, x86 Assembly

- Implemented 5000+ lines of code adding core functionality for an operating system, e.g. file system and scheduling
- Designed and coded all implementations with a team of 4 developers and wrote software design documents
- Analyzed several different approaches with the team to choose our final approach and documented proposed designs

BearTrack (code)

Typescript, Node.js, Angular, Express, Flask, MongoDB, AWS

- Built a full-stack web app enabling Berkeley students to get a real-time text updates on the status of courses they like
- Helped over 40 students find a spot in a class they were interested in and could not get into on their first attempt
- Learned MEAN stack basics in under 2 weeks to implement and deploy the app and NoSQL database in the cloud