Anish Shanbhag

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EDUCATION

University of California, Berkeley   **Class of 2025**
B.S. Electrical Engineering and Computer Sciences (EECS)   GPA: **4.00/4.00**
Relevant Coursework: Designing Information Systems I/II | **Data Structures** | Discrete Math and Probability |
Multivariable Calculus | **Algorithms** | Computer Architecture | **Machine Learning** | Computer Security | Databases

EXPERIENCE

UC Berkeley Sky Lab/BAIR Lab - Undergraduate Researcher   **September 2022 – present**
- Investigating the design of **distributed systems** that enable privacy-preserving **machine learning** on edge devices
- Formulating end-to-end ML pipeline with a **Google Colab** frontend interface connecting to a **AWS/Gurobi** backend
- Implementing open-source library using **Python/Swift/C++** that optimizes **PyTorch** memory cost for mobile devices

PDT Partners - Software Engineering Intern   **June 2023 – August 2023**
- Designed and implemented a distributed and fault-tolerant server provisioning system with **Go, Prometheus/Grafana,** and **AWS Terraform,** enabling an over 1000x speedup over the previous single-threaded implementation

Web Development at Berkeley - External Vice President   **January 2023 – August 2023**
- Led **3 project teams** including over **30 developers/designers** to source, scope, design, and deliver web apps to clients
- Oversaw all of the organization's external communication, including various **sponsorship deals** and client outreach

Cloud at Cal - Machine Learning Researcher   **October 2022 – January 2023**
- Training **ConvLSTMs** (neural networks) to predict near-term change in the road conditions of **autonomous vehicles**, acting as an **early-warning system** for abnormalities identified via **image-based hallucinations**
- Collaborating with team of 4 to aggregate **dashcam footage** and train the model with **TensorFlow/AWS SageMaker**

Convex - Technical Team Lead   **September 2022 – January 2023**
- Leading 10 designers/developers to create a customizable job applicant portal and document the development process
- Utilizing **TypeScript/React/Next.js** and Convex's backend-as-a-service platform to implement the web application

UC Berkeley - CS 61B Course Staff   **August 2022 – December 2022**
- Teaching **data structures and algorithms** course in lab sections, guiding students through **Java** assignments and projects

Weekly - Full-Stack Developer   **January 2022 – July 2022**
- Built a SaaS productivity tracking website with **TypeScript/React/Next.js** that helps users analyze screen time habits
- Led 14 developers to architect backend APIs using **Express, AWS DynamoDB**, and **OAuth/JWT** authentication

Tiba Foundation - Project Lead/Software Engineer   **December 2021 – February 2022**
- Developed software allowing women in Kenya to call for a free ride to hospitals if they cannot afford safe transportation
- Guided team of 5 developers to implement a **TypeScript/React Native mobile app** allowing drivers to record their trips

PROJECTS

Machine Learning for Mancala
- Trained **neural networks** to play the board game Mancala via two algorithms - **neuroevolution/deep Q learning**
- Used **Python/TensorFlow/Keras** to test and optimize both algorithms, achieving a **98% win rate** against a naive player
- Wrote a **research paper** comparing the efficacy, performance, and potential limitations of both techniques

CryoGen
- Developed a software platform for easy sharing of dynamic code generation tools and interactive programming tutorials
- Created a highly performant **CLI** with **TypeScript/Rust** enabling automatic code transformation via declarative APIs
- Designed and built a website with **React/Next.js/Postgres/Docker** allowing users to write, share, and browse tutorials

CPU Data Analysis
- Aggregated and cleaned over **300k unique data points** about **3400+** consumer CPUs using **web scraping** with Node.js
- Utilized **R** and **linear regression techniques** to analyze trends in pricing/performance over the last few decades

SKILLS

Languages: Python, C, C++, JavaScript, Rust, Java, HTML, CSS, TypeScript, Go, C#, SQL, GLSL
Technologies/Frameworks: PyTorch, TensorFlow, React, Google Cloud, Keras, AWS, Postgres, Git, Docker, Kubernetes, NumPy, Pandas, Heroku, Firebase, MongoDB, Vue.js, Node.js, Express, React Native, Web Scraping, Redux