Anjan Bharadwaj

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EDUCATION

University of California, Berkeley • GPA: 3.98
Bachelor of Arts in Computer Science, Data Science May 2024
Coursework: Operating Systems, Databases, Machine Learning, Artificial Intelligence, Efficient Algorithms & Intractable Problems, Machine Structures, Discrete Math & Probability, Data Structures & Algorithms, Probability for Data Science
Involvements: **Accel Scholar, Neo Scholar, Web Development at Berkeley, Free Ventures**

EXPERIENCE

Convex **Software Engineer Intern** Aug 2023 - Present
- Using Rust and TypeScript to build a virtual database table interface and a metadata API for customers to access system tables.

Modern Treasury **Software Engineer Intern** May 2023 – Aug 2023
- Used Ruby on Rails, Postgres, Sidekiq, and Redis to build a pipeline engine capable of parallelizing bank data import operations, achieving ~120% speed-up on ETL jobs for BAI2 files and significantly reducing DB contention.
- Developed an end-to-end feature to audit originating bank files & API requests for any payment/transaction in a customer dashboard.

Nuro – *Autonomy Platform, Ground Truth* **Software Engineer Intern** Jan 2023 – May 2023
- Built a behavior-similarity search tool for autonomy engineers to identify similar video scenes based on robot/agent behavior.
- Implemented asynchronous service to generate and upload vector embeddings from on-road robot logs, using C++/Python, Pinecone, gRPC, and Google Pub/Sub, cutting down on cloud costs significantly.
- Wrote an automated migration pipeline from existing BigQuery tables to Pinecone indexes using Python, BuildKite, and Spark.

Nuro – *Autonomy Platform, Ground Truth* **Software Engineer Intern** May 2022 – Aug 2022
- Developed gRPC service to collect faulty instances of lidar cuboid bounding box labels and generate predicted corrections using Perception autolabeling with human aid. Built metrics layer & de-duplication/ranking modules to filter for important corrections.
- Used C++/Python, Postgres, MongoDB, and OpenGL to build a task assignment and labeling tool extension for in-house labelers to review corrections. Ingested over 19,000 corrections & improved fidelity of 1,600+ labels, saving labelers ~1 hr/day.

VMware - *NSX Intelligence* **Software Engineer Intern** May 2021 – Aug 2021
- Developed instrumentation framework to collect JVM, network, and custom application metrics from NSXi. Built a universal metrics exporter capable of scaling to ingest 50k+ labelled metrics/poll and converting JSON metrics to a variety of exposition formats.
- Utilized Prometheus and Grafana to create a metrics observability Helm Chart for NSXi K8s clusters, enabling support engineers and developers to visualize health of core components (Apache Kafka/Spark/Druid) and custom apps. Reduced debugging time by 10%.
- Cut down on container-to-container network latency by ~25% by using sidecar pattern for metrics exporters & targets.

Free Ventures **Associate** April 2022 - May 2023
- Helping startups access venture funding, mentorship, and resources to scale, via UC Berkeley's student-run startup accelerator.

Web Development at Berkeley **President** Sept 2020 – Present
- Leading executive team for tech-consulting club, partnering with high-growth startups to take on full-stack web development projects.

Politiq (Fall 2021)
- Product Manager for a political-tech startup focused on disrupting the hiring process between campaigns and staffers.
- Led all-hands meetings, conducted code reviews, set up CI/CD pipeline using GitHub Actions, and communicated with clients

Clicked (Spring 2021)
- Implemented REST APIs for Clicked, an online career exploration website, using Node.js, TypeScript, MongoDB, and Next.js.
- Used GitHub Actions to integrate Jest/Mocha/Chai tests & Apidoc documentation into CI/CD, reaching ~60% code coverage.

PROJECTS & AWARDS

Modern Treasury **1st Place at Summer Hackathon** Jul 2023
- Developed an internal language server to support syntax highlighting & go-to-definitions for esoteric bank file format(s).

Nuro **2nd Place at Intern Hackathon** Jul 2022
- Built a matchmaking system between data labelers & on-road logs of robot behavior, based on perceived task difficulty & labeler skill.
- Used BigQuery, gRPC, and MongoDB to create backend labeler "elo" service, as well as Retool dashboard to interact with "elo" data.
- Designed & integrated a distributed architecture to enable ensemble learning of weak learners for task difficulty prediction system.

VMware **1st Place at Summer Intern Poster Session** Jul 2021
- Won 1st place at the Summer 2021 Intern Poster Session for my poster, 'NSXi Metrics Exporter & App Instrumentation Framework'.

HackSC - *PurplePOV* **Grand Prize Winner & Invitation to Pinnacle 2021** Feb 2021
- Helped build PurplePOV, a social media messaging platform aimed at reducing political polarization and news bias.
- Wrote REST API routes and developed real-time messaging system using Node.js, Socket.io, and MongoDB.

FB Reminders Aug 2020
- Created reminder-sharing Chrome Extension and developed backend for editing reminders, with Node.js, Express, and MongoDB.

CytoTrace ***Science*** (DOI: 10.1126/science.aax0249) Jan 2020
- Implemented tSNE-based dimensionality reduction and data ingestion pipelines for datasets with 100k cells and ~1M reads/cell.

SKILLS

Languages & Frameworks: Python, C++, C, Go, Ruby, Rails, Java, JavaScript, TypeScript, Node.js, Express, React, R
Technologies: gRPC, Protobuf, Sidekiq, EC2/Lambda, Google Pub/Sub, Redis, MongoDB, Postgres, BigQuery, Pinecone, Kubernetes, Docker, Helm, Spring Boot, Prometheus, Grafana, Apache Kafka/Druid/Spark, Firebase, Git