

Divyank Shah

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Education

University of California - Riverside

MS in Computer Science

BS in Computer Science

Riverside, California

March 2024 - March 2025

September 2021 - March 2024

Technical Skills

Languages: Python, JavaScript, TypeScript, React, React Native, C++, Go, HTML, CSS, SQL

Machine Learning: PyTorch, NumPy, FAISS, Pandas, Flower.ai, TensorFlow

Developer Tools: Git, Github, PyTest, Cypress, Google Cloud Platform, Github Actions, Concourse CI, Anaconda

Technologies: Next.js, TailwindCSS, Expo, MongoDB, InfluxDB, Grafana

Management: Jira, Confluence, Scaled Agile Framework 5, Scrum, Github Projects, Azure DevOps

Experiences

Collaborative Intelligence Systems Lab - Dr. Hang Qiu

Riverside, California

Graduate Researcher

October 2024 - January 2026

- Benchmark Monocular 3D Detection models including [FCOS3D](#) in Continual Federated Active Environment with [Flower.ai](#) & [MMDetection3D](#) utilizing uniform, entropy, confidence, margin, coreset, cold based sampling
- Collect multi-agent interactions in Carla simulator to provide training dataset for multi-agent learning methods
- Rebuild [Command Input Imitation Learning](#) pipeline with custom CARLA image & position data in PyTorch
- Create 150+ static and dynamic camera/lidar snapshots for targetless calibration in autonomous driving
- Benchmark [CalibNet](#) against KITTI, NuScenes, and CalibDB datasets to provide baseline for [BevCalib](#)

Connected Signals

Irvine, California

Software Engineering Intern | Core Product

May 2025 - August 2025

- Migrate and redesign Transit Signal Priority iOS React Native App to Expo enabling Android and iOS builds
- Create initial version of analytics dashboard via ShadCN charts to showcase TSP and EVP system health
- Construct Django Admin TSP and EVP device certificate dashboards to streamline certificate management

Cisco

San Jose, California

Software Engineering Intern | Mass Scale Infrastructure

July 2024 - December 2024

- Streamline triage to label failures for [Google B4](#), [Meta EBB](#), [Microsoft SWAN](#) reducing manual efforts by 20%
- Utilize [Facebook AI Similarity Search](#) to index FireX logs and semantically search across 3000+ documents
- Embed testlogs with Hugging Face's [all-MiniLM-L6-v2](#) & integrate with LangChain to build FAISS IndexFlatL2
- Undertake Next.js + Typescript labeling dashboard to display MongoDB data points via aggregation pipeline
- Extend [FireX](#) testing plugins to automatically parse and push XML testcase logs to MongoDB

Zybertech

Simi Valley, California

Software Engineering Intern | Core Product

April 2024 - September 2024

- Architect Android based React Native Expo self-ordering kiosk app for [Farmer Boys](#) Kiosk Pilot
- Rewrote file based API cache to reduce Point of Sale (POS) requests by 80% with 24 hour cache retention policy
- Connect [Worldpay TriPOS](#) Payment API with custom Kotlin wrapper to provide P2PE PCI certified payments
- Implement 18+ screens to handle member and guest user flows to personalize ordering experience

Comcast

Philadelphia, Pennsylvania

Software Engineering Intern | Smart Network Platform

June 2023 - September 2023

- Upgrade Foresight web app to use Node.js 18 from v12 to increase performance and reduce security vulnerabilities
- Merge Express.js API with Foresight web app to reduce running containers by 50% & increase performance by 25%
- Refine project name input data validation API to prevent name duplication and provide useful error messages
- Enhance SNP Storybook webcomponents to resolve 10+ [Mend](#) alerts to maintain quarterly security compliance
- Design and develop Slack based VM telemetry system with 4 panel Grafana dashboard pulling from InfluxDB

Comcast

Software Engineering Intern | Next Generation Access Network

Philadelphia, Pennsylvania

June 2022 – February 2023

- Fabricate 5+ [Concourse](#) pipelines to check linting, formatting, whitesourcing, testing
- Compute event-triggered TTR to enhance accuracy for 1000+ daily alerts & visualize with React dashboard
- Migrate & mock unit-test auto-remediation platform from [Stackstorm](#) to AWS Step Functions
- Standardize 50+ **Python** auto-remediation scripts to fit AWS Step Function compatibility
- Write & automate 320+ unit tests via PyTest and Concourse to ensure 15+ APIs' robustness with 95% coverage

Publications

BEVCALIB: LiDAR-Camera Calibration via Geometry-Guided Bird's-Eye View Representations

- Weiduo Yuan, Jerry Li, Justin Yue, **Divyank Shah**, Konstantinos Karydis, Hang Qiu

Leadership

Association of Computing Machinery at UCR

Riverside, CA

Projects Director

March 2022 – June 2025

- Initiate 90+ projects including websites, educational tools for UCR CSE department, clubs with 300+ developers
- Lead 16+ weekly career workshops covering resumes, interviews, research, graduate studies, course planning, internships to increase member retention by 30%
- Instruct 32+ weekly web development workshops covering React, Next.js, TailwindCSS, and Next Auth

Projects

Vault MCP | *EnrichMCP, Redis, Sentence Transformers*

github.com/shahdivyank/vault-mcp

- Won 3rd place at FeatureForm MCP Hackathon unifying shared memory for cross agent and model applications
- Combine [Redis](#) Vector Store and Hugging Face's [all-mpnet-base-v2](#) for RAG based shared context injection
- Create Next.js, TailwindCSS, TypeScript fullstack application to visualize individual and shared context spaces

Speech Master | *Next.js, HumeAI, TensorFlow, Socket.io*

devpost.com/software/speech-master

- Won 2nd place at CalHacks 10.0 by leveraging emotional analysis and pose detection to improve public speaking
- Utilize [TensorFlow](#) [MoveNet](#) to detect 17 body points in realtime & send alerts to users flagging bad posture
- Stream realtime audio and visual presentation feed over [Socket.io](#) to receiving clients with live chat

Beatdrop | *Expo, React Native, Apollo, GraphQL, Go*

[Beatdrop on App Store](#)

- Build cross platform social media application to allow users to hear the world from another perspective
- Lead development and architecture to incorporate Spotify/YouTube search & preview APIs & live location tracking
- Create Go [gqlgen](#) GraphQL server deployed on Vercel to query Supabase PostgreSQL connected to Apollo Client

Aurora | *Next.js, Google OAuth, TailwindCSS, Firebase*

github.com/acm-ucr/aurora

- Direct 70+ developer team over 24+ month AGILE development process for all-purpose hackathon website
- Virtualize table and dropdown components with Tanstack [Table](#) & [Virtual](#) to reduce response time & user lag by 60%
- Spearhead judging portal to virtualize judge assignment reducing judging delays by 75 - 80% across 5+ hackathons
- Incorporate Google OAuth with Next Auth to implement role based authentication on client and server
- Add [Resend](#) Email Automation to update user application status reducing operations team's workload by 30%
- Launch QR code based checkin system with live QR codes reducing wait times by 60% and preventing false checkins

Teaching

University of California, Riverside

Riverside, CA

Data Structures and Algorithms Teaching Assistant - Professor Patrick Miller

Spring/Fall 2024, Winter/Spring 2025

- Work with 800+ students teaching lists, stacks, queues, trees, heaps, hashtables, graphs
- Take programming and laboratory assignments whiteboard demos encouraging students to think critically about new problems and approaches
- Hold weekly office hours to help students debug, review and understand course content
- Instruct 49 x 1 hour quiz preparation/review sessions to prepare students for biweekly quizzes
- Hold 11 x 3 hour final review sessions to assist students with final preparations
- Grade variety of quizzes, finals, programming/laboratory assignments encouraging better code quality