NISHANT BALAJI

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EDUCATION

University of California San Diego *3.74 GPA*

M.S. Computer Engineering — *Sept 2024 - Jun 2025*

B.S. Computer Engineering - CSE & ECE Student Service Award, ECE Student Excellence Award — *Oct 2020 - Jun 2024*

EXPERIENCE

Roblox — *Jun 2023 - Sep 2023*

Software Engineering Intern - Creator Services, Data — *San Mateo, CA*

- Developed **OpenCloud** API routes for Memory Store services allowing developers to access data outside Roblox Studio via REST APIs.
- Created API routes using **protocol buffers**, **C#** and **Lua**, establishing open access standards for future Roblox services on OpenCloud.
- Launched **HTTP protocols** for Roblox's developer community of **10,000+**, granting access to short-term game data cached via Redis.

NVIDIA — *Mar 2023 - Jun 2023*

Software Engineering Intern - Hardware Infrastructure, Security — *Santa Clara, CA*

- Used **Python**, **Django**, **Grafana**, and **Open Telemetry** to develop a security platform that audits data from Slack, Jira, Confluence, etc.
- Designed **Python decorators** to make platform easily maintainable for new data sources, protecting against company-wide data leaks.
- Created **Grafana** dashboards to improve observability for key services, displaying service health and request latency in real-time.

NVIDIA — *Jun 2022 - Sep 2022*

Software Engineering Intern - Hardware Infrastructure, Test Automation — *Santa Clara, CA*

- Utilized **React**, **Python**, **Websockets** and **Redis** to create application for hardware architects to view load tests on CPUs and GPUs.
- Ingested **terrabytes of test data** from NVIDIA's test generation platform using **Redis** and **Python** to display on the Batch Status app.
- Established **CI/CD** pipelines for the Batch Status platform using **Docker** and **Kubernetes**, halving time to test and deploy application.

NASA Goddard Space Flight Center — *Aug 2021 - Dec 2021*

Machine Learning / Software Engineering Intern - Earth Observing System Data and Information System — *Greenbelt, MD*

- Utilized **Python** to develop **Natural Language Processing** tools to classify Earth Observation articles by topics to display similar papers.
- Benchmarked **7 models** to classify **6000+ articles** into generalized categories by content, resulting in over **85% testing accuracy**.
- Leveraged **sentiment analysis** to recommend related articles from NASA's research database based on topics and search keywords.

UC San Diego Computer Science and Engineering Department — *Jan 2023 - Jun 2024*

Instructional Assistant — *La Jolla, CA*

- Taught Programming Tools to **650+ students** and Advanced Data Structures to **600+ students**, with a 95% student approval rating.
- Hosted weekly labs guiding **100+ students** through interactive labs working with Linux, Bash, Git, Vim, Nano, JUnit and other tools.
- Aided **30+ students per week** with technical guidance and concept explanations on **C++** programming assignments in 1:1 office hours.

LEADERSHIP

Association for Computing Machinery (ACM) at UC San Diego — *May 2021 - June 2024*

President — *La Jolla, CA*

- Managed board of **130+** in organizing technical workshops, projects, outreach, and socials for largest computing community at UCSD.
- Coordinated event logistics for **230+ yearly workshops and social events**, **ACM's hackathon**, and **career fair** reaching **2000+ students**.
- Founded **ACM's outreach program**, introducing **hundreds of underrepresented students** in the San Diego area to computer science.

PROJECTS

Protolab LLM Co-Generation Platform- *Vite, Flask, OpenAI, TipTap, DailyAPI*

- Conducting research with **UCSD Design Lab** on collaborative ideation with conversational cues generated by **Large Language Models**.
- Using **OpenAI**, **Tiptap**, and **DailyAPI** to create an ideation platform with AI generated conversational cues for research participants.
- Leveraged **Firebase Firestore** to store session cue data and run multiple research trials in parallel, allowing for faster data collection.

Acoustic Species Identification - *React, Flask, Docker, Electron, Next.js*

- Collaborated with conservation researchers at the **San Diego Zoo** to train a **classification model** to identify species vocalizations.
- Utilized **React** and **Flask**, and **Docker** to develop a platform to visualize **1500+** hours of audio for experts to label vocalizations.
- Developed desktop application with **Electron** and **Next.js** in order for researchers to validate classified audio data from the model.

SKILLS

Languages	Python, JavaScript, Typescript, Java, C, C++, C#, SQL, Go, Rust, Bash, Haskell, Lua, Ruby, Assembly, YAML, HTML, CSS
Technologies	React, Node.js, Flask, FastAPI, Redis, PostgreSQL, MongoDB, Next.js, Vite, Django, Express, PyTorch, NumPy, .NET, Figma
Tools	AWS, Google Cloud Platform, Docker, Unix/Linux, Git/Github, OpenAI, Heroku, Netlify, Valgrind, Postman, Vercel, Android