

Vijit Dua

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Portfolio: <https://vijitdua.com/portfolio>

Education

University of California, Davis

Bachelors of Science, Computer Science

Sept 2023 – December 2026 (Expected)

- Dean's Honor List (Fall 2023), Member of Davis Competitive Programming Club
- On Pace to Graduate Early

University of Hong Kong [HKU]

Semester Exchange

Sept 2024 – December 2024

Languages & Tools (bold = highly experienced)

- Languages: **JavaScript / Node.js**, TypeScript, C++, C, Python, Java
- Frameworks & Tools: **React.js**, **React Native**, Expo, **Express.js**, FastAPI, Django, **Material UI**, HTML, CSS
- Databases: **PostgreSQL**, **MySQL**, Sequelize (ORM), MongoDB, SQLite, Firestore, Other (NoSQL, SQL)
- Dev. Ops: Docker, Kubernetes, **Git**, **GitHub** CI / CD / actions, AWS (EC2 & Cognito), Digital Ocean, Firebase, NGINX, Cloudflare
- Machine Learning: PyTorch

Experience (blue = links)

KAIST (Korea Advanced Institute of Science & Technology) | Deep Learning Research [\[research paper\]](#)

July 2024 - July 2024

- **Selected among 18 students worldwide** for the prestigious summer research program at KAIST, focussing on deep learning research.
- Developed **UNet** and **Attention UNet** models to **automate road infrastructure detection** using satellite imagery, aimed at reducing manual labor in road mapping.
- Achieved a strong **0.73 F1 score** on the final model.
- Curated and preprocessed data from datasets like Massachusetts and SpaceNet, correcting known errors for model enhancement.

Icarus Development

- **Team Lead – Web Development** July 2024 - September 2024
 - **Led** a team of **six software engineers** and one designer, in a fast-paced startup environment.
 - Delivered **first deployment in 14 days**, ahead of 1-month timeline.
 - Worked as a **full-stack engineer**, utilizing **React.js** & **Material UI** for front-end development, alongside **Node.js** (primarily) & **Python** for back-end development.
 - Maintained **automated deployment pipelines** through **GitHub CI**.
 - Managed **Linux server deployment** with **NGINX**, overseeing **Cloudflare** configurations.
 - Developed **internal tools** including a web admin panel & custom Discord bot integrated with a **Node.js CRUD backend** for streamlined administrative features for team management.
- **Mobile Developer Intern** June 2024 - July 2024
 - Served as primary developer for Davis Dot, a social app designed to unite users over deep, personalized interests.
 - Built using TypeScript and **React Native** with **Expo** to develop for both **iOS** & **Android** platforms.
 - Demonstrated strong skills during project that led to quick transition into leading the Web Development Team & enhancing internal tools.

SchoolHouse.world – Volunteer Peer Tutor [\[portfolio & reviews\]](#)

August 2022 - January 2023

- Tutored students in AP Physics & SAT
- Received **98% positive ratings** among a total of **190+ ratings**
- Ranked **"Most Helpful Tutor of the Week"** **5 times consecutively**
- Helped a student improve from barely passing his class to achieving full marks on in-class quizzes.
- Audited sessions to measure quality and safety.

Projects & Activities (blue = links)

InnoGreet | Collaborative Innovation Platform [\[showcase\]](#) [\[website\]](#)

September 2024 - January 2025 (Expected)

- **Leading the team**, including development, for a platform aimed at connecting & providing resources to individuals seeking collaboration on innovative projects.
- Currently a project with the potential to transition into a startup based on beta launch success.
- **Technologies** – JavaScript, React.js, Material UI, Node.js, Express.js, PostgreSQL, MongoDB (Messages only), Sequelize, Passport.js, NodeMailer.

OutWatch | Automatic Service Outage Monitor and Bug Reporter [\[showcase\]](#) [\[github\]](#)

October 2024

- Quickly **developed** & deployed in **less than 7 hours**.
- Monitors service status every 10 minutes and logs uptime data.
- Sends alerts to designated Discord channels for service downtime and user-submitted bug reports.
- Built with Node.js, **Express.js**, **PostgreSQL**, Discord.js, Sequelize (ORM), and **node-cron** (scheduling).

TeamSync | In Progress – Streamlined Team Management [\[showcase\]](#) [\[github\]](#)

September 2024 - October 2024 (Expected)

- An app aimed at streamlining administrative tasks & member management, particularly Discord-based teams.
- Implemented **RESTful APIs** and enabled public data display through simple GET requests for web integrations.
- Created a **React.js** web client, **Discord.js** Discord bot, and a **Express.js** backend.
- Additional Utilities: Passport.js, **Sequelize.js**

More: Visit projects not listed here @ <https://vijitdua.com/projects>