# Dennis Lustre

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## Education

**University of California, Irvine** September 2020 - June 2024
*Bachelor of Science in Computer Science* *Irvine, CA*

- **GPA**: 3.63/4.0 (8x Dean's List)
- **Leadership & Involvement**: ICS Student Council Projects Committee, FUSION Mentor
- **Courses**: Computer Vision, Artificial Intelligence, System Design, Data Structures & Algorithms

## Experience

**Machine Learning Engineer** May 2024 - Present
*Boundary Remote Sensing Systems* *Remote*

- **Greenfielding an ML pipeline** to generate reports with data visualizations tailored to geospatial data, utilizing **CUDA** and **HuggingFace Transformers** for inference.
- **Improved Microsoft LIDA's optimization capabilities** by making an open-source contribution enabling 4-bit quantization for LLMs running locally.

**Software Developer** November 2023 - Present
*ICS Student Council - ZotMeal* *Irvine, CA*

- **Led front-end development** by designing **Figma** mockups, creating Android, iOS, and web-compatible **React Native** components, and integrating with the back-end using **tRPC**.
- **Sped up back-end cron services by 50%** by parallelizing async operations for **AWS Lambda** serverless functions.
- **Slashed setup and teardown times for PostgreSQL integration tests by 30%** by adopting **Testcontainers** to simplify database test suites in **Vitest**.

**Software Engineer Intern** July 2023 - July 2024
*Thaddeus Resource Center* *Remote*

- **Led the full lifecycle of a Next.js web app, achieving a 78% reduction in deployment costs:** Pitched the project for director approval, managed a team of 6 web developers, and deployed the solution as a **Docker** container.
- **Boosted organizational efficiency by developing comprehensive internal systems**, including an admin dashboard for staff management and a blog system, streamlining operations.
- **Accelerated CI execution times by 50%** by parallelizing **Jest** and **Playwright** E2E test suites.

## Projects

**NASA Radiation Microscopy Generative AI Model** | *Python* | GitHub

- **Furthered research on the effects of cosmic radiation on astronauts** by developing a Generative Adversarial Network with **PyTorch Lightning** to generate synthetic images that mimic irradiated cells.
- **Classified images with 93% accuracy on a large subset of the domain** by leveraging ResNet101.
- **Presented project results to NASA GeneLab scientists** after developing the project in **Agile** sprints.

**Gesture-Controlled Robot Arm** | *Arduino* | GitHub

- **Led development of embedded systems software within a cross-functional team of 11 engineers** for a gesture-controlled robot arm using **Arduino** microcontrollers.
- **Achieved 1st place and won 2 additional awards at FUSIONCon: Sponsor's Choice** and **Most Innovative Design**.

**Geospatial Web Game** | *TypeScript, Python, Next.js, Tailwind CSS* | GitHub

- **Won 2 awards at Data@UCI's Atlantis Datathon: People's Choice** and **Best Use of Melissa API**.
- **Developed an end-to-end browser game in 24 hours** that utilizes a reverse geocoder API to generate geospatial clues for players to guess Orange County cities.
- **Managed development and deployment of the app** with **Next.js** and **Vercel**.

## Technical Skills

**Programming Languages**: C, C++, C#, Python, JavaScript, Golang, Rust, Java, SQL, HTML, CSS
**Tech**: React.js, Node.js, ASP.NET, MySQL, Postman, Cypress, AWS, Azure, Vercel, NoSQL, CUDA, NumPy, pandas
**Other**: Linux (Ubuntu), Visual Studio, Bash Shell Scripting, Powershell, GitLab, Agile, Scrum, Jira (Kanban), SDLC