

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 **trRPC**.
- **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 infra costs.**
- **Managed a team of 6 web developers and accelerated development** by building a CI/CD pipeline that automates tests, builds, and deployments for staging and production using **GitHub Actions**.
- **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 | [C++](#), [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, Docker, AWS, Azure, Vercel, NoSQL, CUDA, NumPy, pandas

Other: Linux (Ubuntu), Visual Studio, Bash Shell Scripting, Powershell, GitLab, Agile, Scrum, Jira (Kanban), SDLC