Dennis Lustre

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Education

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

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

Experience

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

- **Leading development of 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 Lead November 2023 - May 2024
FUSION Engineering Project *Irvine, CA*

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

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

- **Led a website overhaul that reduced operational costs by 78%, optimized site performance using static generation, and secured more valuable internships for the organization:** Pitched the project for CEO approval, transitioned from Webflow to **Next.js** and **Firebase**, led a team of 6 using **Agile** and **CI/CD** methodologies, and deployed as a **Docker** container to DigitalOcean
- **Saved an estimated 3 hours of CI and developer time per week** by building a **CI/CD** pipeline with **GitHub Actions**, **PNPM**, and **Docker**
- **Accelerated CI execution times by 50%** by parallelizing and caching **Jest** and **Playwright** E2E test suites

Projects

Geospatial Web Game | *TypeScript, Python, Next.js, Tailwind CSS* | GitHub April 2024

- **Won 2 awards at Data@UCI's Atlantis Datathon: People's Choice** and **Best Use of Melissa API**
- **Developed a full-stack browser game in 24 hours** that utilizes a reverse geocoder API to generate geospatial clues for players to guess Orange County cities

NASA Radiation Microscopy Generative AI Model | *Python* | GitHub March 2023 - June 2023

- **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

Technical Skills

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