# Dennis Lustre

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## Education

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

- GPA: 3.56 (5x Dean's List)
- Selected Coursework: Algorithms, Data Structures, Web Crawling, Project in AI, Machine Learning and Data Mining, Computational Photography and Vision

## Technical Skills

**Programming Languages**: Python, C++, JavaScript, HTML/CSS, Bash
**Technologies and Frameworks**: React.js, React Native, Firebase, Jest, PyTorch, NumPy, Matplotlib
**Developer Tools**: Git, VSCode, Eclipse, Linux CLI, Jupyter Notebook, Agile (Scrum)

## Experience

**Software Engineering Intern** July 2023 – Present
*Thaddeus Resource Center* *La Verne, CA*

- Successfully refactored and optimized a key module, reducing its size from over 700 lines to just 100 lines, in addition to achieving a **40%** overall reduction in lines of code across assigned modules
- Significantly improved codebase organization and maintainability by migrating static data to a centralized data directory, authoring comprehensive documentation detailing the structure of the JSON objects, and achieving **100%** docstring coverage for the app's completed modules
- Pioneered the introduction of testing practices, demonstrating initiative by setting up a **Jest**-based testing environment; authored clear documentation for testing procedures to further foster a culture of quality assurance within the team
- Served as a mentor for new interns by facilitating their onboarding with environment setups and the app repository
- Developed reusable **React** components to streamline future updates, maintain consistency across the entire app, and organize my assigned modules

## Projects

**NASA Radiation Microscopy Generative Model** | *Python, PyTorch Lightning, Boto3, WandB* June 2023
*ML pipeline designed to augment NASA's BPS Microscopy Dataset on AWS with synthetic radiation images*
GitHub

- Developed a Generative Adversarial Network with **PyTorch Lightning** to generate synthetic images that mimic irradiated cells and further research on the effects of cosmic radiation on astronauts
- Leveraged ResNet101 to classify images with **93%** accuracy on the original dataset
- Developed the project in Agile sprints and successfully presented project results to NASA GeneLab scientists

**Aim Trainer** | *JavaScript, React.js, Firebase, HTML, CSS* August 2023
*Browser game designed to train the aiming skills of FPS game enthusiasts*
Demo | GitHub

- Optimized load times by module bundling with **Vite**, resulting in a **66%** improvement in First Contentful Paint (FCP) and an **81%** improvement in Largest Contentful Paint (LCP)
- Implemented user authentication and cloud database with **Firebase** Authentication and Cloud Firestore
- Leveraged GitHub Actions to automate the build and deployment pipeline for efficient publishing to GitHub Pages

**Tic-Tac-Toe Discord Bot** | *JavaScript, Discord.js, HTML, CSS* September 2023
*Discord bot that integrates a multiplayer game into servers*
GitHub

- Devised and implemented a novel solution for the game interface by using **Puppeteer** API for dynamic image rendering in response to user messages
- Conducted comprehensive code reviews with a partner, proactively identifying and eliminating critical bugs to enhance code quality and improve software reliability
- Implemented continuous integration and deployment using Git version control