

Sage DuRivage

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SUMMARY

Prototype Technician with experience in 3D printing and CNC machining bringing strong problem-solving skills from a background in software and applied mathematics. Skilled in building and maintaining custom assemblies, organizing dynamic shop environments, and collaborating with mechanical and electrical engineering teams to deliver high-quality products. Adept at learning new fabrication techniques, applying CAD tools, and ensuring reliable results through meticulous quality control.

SKILLS

- **Programming:** G-Code, C++, Python, JavaScript, HTML, CSS
- **Systems & Tools:** CAD (Blender, SolidWorks, AutoCAD), Linux (system admin, shell scripting), Git, CI/CD, Vim, VS Code
- **Professional:** Detail-oriented, strong written and verbal communication, collaborative team player, ethical and ownership-driven

WORK EXPERIENCE

AI Lab (NDA)

Jul 2025 - Present

Model Validation Fellow

Remote

- Executed data labeling and curation to support the development and validation of advanced AI/ML models.
- Applied mathematical expertise to guarantee accuracy, consistency, and quality in model training datasets.
- Conducted rigorous validation checks using domain-specific criteria to enhance overall model reliability.

Paper

Jan 2022 - Present

Computer Science Instructor

Remote

- Guided over 120 students in mastering programming concepts through comprehensive code reviews and technical feedback.
- Enhanced code reliability in C++, Python, and Javascript by coaching best practices and standard operating procedures.
- Streamlined troubleshooting practices by instructing students in the use of GNU Debugger and Valgrind, reducing debugging time by more than 15 minutes per session.

UC Davis

Sep 2022 - Present

CAD Instructor

Davis, CA

- Introduced 3D modeling and prototyping techniques using Blender, by delivering step-by-step tutorials and hands-on guidance.
- Improved students' rendering proficiency, reducing modeling errors by 15% through best practices in mesh faceting resolution, retopology, and graphical debugging.
- Established 3D printing workflows by preparing digital models for slicing, troubleshooting printer errors, and ensuring successful fabrication of classroom prototypes.

EDUCATION

University of California, Riverside

Riverside, CA

B.S. in Applied Mathematics, Concentration in Computational Mathematics

- *Coursework:* Artificial Intelligence, Data Structures & Algorithms, Software Construction, Automata & Formal Languages, Computer Graphics, Game Theory, Numerical Analysis, Ordinary & Partial Differential Equations, Multivariable Calculus, Linear Algebra, Discrete Structures, Optimization, Physics, Discrete Structures, Probability & Statistics

PROJECTS

Ray Tracer | <https://github.com/sagedurivage/ray-tracer>

Feb 2025

- Implemented rendering techniques, including Lambertian shading, specular highlights, anti-aliasing, and ray-object intersections.
- Tested and deployed the project in a Linux-based environment with g++ 11.4.0, ensuring compatibility with the libpng, libstdc++, libm, and libz libraries.

8 Puzzle Solver | <https://github.com/sagedurivage/eight-puzzle-solver>

Nov 2024

- Implemented an A* search algorithm in C++ with Misplaced Tile and Euclidean Distance heuristics to efficiently solve the 8 puzzle problem.

Itinero Travel App | <http://devpost.com/software/itinero-travel-app>

Feb 2024

- Built a trip scheduling web app using React.js and Cohere's natural language processing to interpret user queries, with a reusable JSX component to filter, sort, and display geographically-relevant information from Booking.com, Airbnb, and Google Maps APIs.

Ceramic Prototyping | <https://www.behance.net/gallery/188070711/Ceramic-Prototyping>

Sep 2022

- Developed a hybrid prototyping workflow combining Blender modeling, 3D printing, and porcelain casting to translate digital designs into precise ceramic forms.
- Refined mold and material processes through iterative troubleshooting, improving fabrication reliability and reducing material waste.