

Atharva Kharwadkar

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[linkedin.com/in/atharvakharwadkar](https://www.linkedin.com/in/atharvakharwadkar) | <https://atharvapk.com> | <https://github.com/artypk>

EDUCATION

University of California, Davis

Davis, CA

Bachelor of Science in Mechanical Engineering; GPA: 3.69/4.00

Expected Graduation: June 2027

- Coursework: Mechanical Design, Manufacturing Processes, Materials Science, Numerical Analysis
- Math GPA: 3.88/4.00, Upper-Division GPA: 3.87/4.00
- Standardized Testing: GRE (167 Quant, 161 Verbal)

WORK EXPERIENCE

Recor Medical

Palo Alto, CA

Manufacturing Engineering Intern

June 2026 – September 2026

- Eliminated \$10K in annualized outsourced manufacturing expenses by designing de-skilled cutting fixtures used in-house.
- Designed UV-curing machinery for adhesives to cut cycle times and drive \$20K in annualized medical catheter production.
- Executed Gage R&R followed by DOE using JMP to develop new manufacturing processes with minimal process defects.
- Performed Root-Sum-Square analysis and applied GD&T expertise to create production-ready drawings.
- Engineered multi-part holding fixtures that geometrically enforce a Work Coordinate System, enabling automated Micro-Vu optical inspection for complex catheter components at a 200% rate.

Advanced Research for Manufacturing Systems Lab

Davis, CA

Research Assistant

September 2024 – Present

- Building Model Context Protocol (MCP) software to automate Design for Manufacturing (DFM) under agentic supervision.
- Leveraged Retrieval Augmented Generation (RAG) to create a “manufacturing-informed” ML agent for 3D design feedback.
- Deployed a C# CAD engine engaging the SolidWorks API to extract & re-inject Model-Based Definition (MBD) on 3D parts.
- Coded a Python OCR script to parse Geometric Dimensioning & Tolerancing (GD&T) data into SQL databases.
- Processed 10K+ measurements made using Micro-Vu equipment and software for pre- and post- metal printing comparison.
- Serviced DMG Mori CNC machines to ensure optimal tooling and calibration for researchers at ARMS.

John Cockerill

Salem, OH

Engineering Intern

June 2025 – September 2025

- Reduced steel manufacturing machinery quote lead times by 87% by developing a Python app for automated workflows.
- Created algorithms matching inputs with database references to rank 600+ equipment solutions for industrial applications.
- Standardized technical documents by coding internal tools to generate CAD drawings and Excel cost sheets using input data.
- Developed a predictive spare-parts quoting framework, applying algorithmic logic used in high-value asset quoting.

PROJECTS

Custom FEM Solvers (Ongoing) | *Scientific Computing / CAE*

July 2026 – Present

- Developing 2D/3D Finite Element Method (FEM) solvers from scratch in C++, Fortran, and JAX to benchmark computational performance and generate training data for physics-grounded ML models.
- Check Github: <https://github.com/artypk>

Formula Racing UC Davis | *Formula SAE Electric Competition*

September 2023 – March 2026

- Programmed CAM G-code using Fusion360 to perform CNC Machining, minimizing cycle time as far as 83% (6hrs to 30min).
- Designed components using topology optimization FEA to decrease mass yet maintain Factor of Safety to ensure durability.
- Manufactured parts on the Manual Lathe and Mill within stricter tolerances as tight as 0.005” to guarantee perfect assembly.

TECHNICAL SKILLS

Programming: Python, G-Code, Matlab, C#, C++, NumPy, Flask, SQL, JAX, Fortran

Software: SolidWorks, Creo Parametric, Autodesk Fusion360, JMP, Microsoft Excel

Engineering: DOE, Gage R&R, CNC Machining, Lathe, FDM Printing, Resin Printing, GD&T, Micro-Vu

Languages: English (Native), Mandarin (Immersive Fluency), German (Professional), Hindi (Professional)