

Pravin Salla

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EDUCATION

University of California, Davis — M.S. Mechanical & Aerospace Engineering (GPA: 3.7/4.0)

Sept 2024 – Dec 2026

Relevant Coursework: Advanced Manufacturing, Advanced Mechanical Design, Mechanical Performance of Materials, Modern Manufacturing Technology

Somaiya Vidyavihar University — B.Tech Mechanical Engineering, Honors in Design (GPA: 3.6/4.0)

Sept 2020 – June 2024

Relevant Coursework: Mechanical System Design, Process Equipment Design, Failure Analysis, Automation, Elements of Machine Design

TECHNICAL SKILLS

Programming: MATLAB, Simulink, Python, Arduino IDE

Engineering Methods: FEA, FMEA, GD&T, Root Cause Analysis, Tolerance Analysis, DFM, CFD, Failure Analysis, Design Validation, Technical Documentation

CAD / Simulation: SolidWorks, AutoCAD, Fusion 360, ANSYS, CATIA, PTC Creo, Siemens NX, Abaqus

Testing / Controls: LabVIEW, DAQ, Sensor Integration, Signal Processing, NI Signal Express, Frequency-Domain Analysis

Manufacturing / Hardware: CNC Machining (DMG/Haas), 3D Printing (FDM), Laser Cutting, Milling, Lathe, Grinding, Welding, Injection Moulding, Soldering, Pneumatics, Hydraulics

Software / Data Tools: Excel, PowerPoint, Word, Power BI (Basic)

WORK EXPERIENCE

Graduate Student Researcher — UC Davis, AHMCT Research Center (in collaboration with Caltrans)

Apr 2026 – Present

Sacramento, California

- Conduct applied research on heavy equipment safety systems for industrial and construction applications with Caltrans.
- Support design, integration, and validation of remote shutdown systems for industrial and construction equipment.
- Perform instrumentation setup, pilot testing and data acquisition for proposed safety systems.
- Contribute to technical reports, engineering documentation, and recommendations for field deployment.

Graduate Teaching Assistant — EME 50: Manufacturing Processes, UC Davis

Aug 2025 – Mar 2026

Davis, California

- Conducted hands-on instruction in manual milling, lathe, drill press and CNC machining, covering setup, tooling, machining parameters, and safe shop practices.
- Instructed CAD modelling and CAM programming in Fusion 360, reviewing part models and troubleshooting toolpaths and workholding setups, as well as reviewing technical drawings and application of GD&T principles.
- Led machining demonstrations for multi-component gyroscope assemblies, reinforcing machining fundamentals and process consistency.

Design Intern — Ayka Control Systems

June 2023 – Sept 2023

Mumbai, India

- Developed 40+ product concepts and prototypes in SolidWorks and rapid prototyping across consumer and industrial product lines.
- Designed injection- and compression-moulding tooling and managed full design-to-manufacture documentation.
- Delivered technical reports and presentations to international clients including Offgrid Europe and ClearBot.

ACADEMIC PROJECTS

Hahn Grinder Friction Characterization & Data Analysis — MASTeR Lab, UC Davis

Jan 2025 – June 2025

- Characterized friction on a Cylindrical Grinder linear axis using a reciprocating sled setup, integrating load cell and potentiometer signals via NI DAQ across 8 piston-speed levels under lubricated and non-lubricated conditions.
- Developed MATLAB scripts to convert raw voltage to physical units, segment strokes, and analyze friction-velocity trends and cycle-to-cycle repeatability, producing structured datasets for servo sizing and tribological studies.

Rotating Machinery Fault Diagnosis & Vibration Analysis- Published in Noise & Vibration Worldwide (SAGE Pub)

Sep 2023 – Dec 2023

- Conducted fault-diagnosis testing on a Machinery Fault Simulator (1.4–4.53 g unbalances, 500–1500 RPM, single- and multi-plane) and performed FFT-based vibration analysis to quantify effects of unbalance mass, speed, and angular separation.
- Built SolidWorks rotor models and ANSYS FE/modal analysis validating natural frequencies within 10% of experimental results; co-authored the resulting peer-reviewed article.

Subsonic Wind Tunnel

Jan 2024 – April 2024

- Co-designed and fabricated a low-speed, suction-type wind tunnel from first principles (contraction cone, honeycomb settling chamber, acrylic test section, diffuser) in SolidWorks, welded steel, and acrylic.
- Validated the design in ANSYS Fluent (k-omega, ~836K-node mesh), achieving 9.4 m/s test-section velocity at turbulence intensity as low as 0.42%, and confirmed results via smoke visualization and anemometer testing on 3D-printed models.