Atharva Ajay Wani, MS

+1 623-206-9103 • Tempe, AZ • aawani@asu.edu • linkedin.com/in/atharva-wani • atharvawani3.github.io/portfolio/

Education

Master of Science in Robotics and Autonomous Systems: Mechanical and Aerospace Engineering — May 2024
- Arizona State University, Tempe, AZ — GPA: 3.78/4.00
- Relevant Coursework: Mechatronics device innovation, Programming of IoT devices, Machine Learning, Wearables.

Bachelor of Technology Mechanical Engineering: Machine Design minor — Aug 2021
- Manipal Academy for Higher Education, Manipal, Karnataka, India. — GPA: 3.53/4.00

Skills

CAD/CAE	Siemens NX, SolidWorks, Catia V5 & 3DX, Fusion360, Creo, AutoCAD, ANSYS.
Fabrication/Prototyping	3D printing (FDM/SLA/SLS), CNC Lathe/Mill, GD&T, Laser Cutter, electric circuits design.
Computer Skills	Python, ROS2, Linux, Gazebo, MATLAB/Simulink, XML, Git, Arduino, ESP32, C++, OpenCV.

Professional Experience

Mechanical Design Engineer, ASML — Nov 2024 - Present
- Solved AIR issues related to the DUV Reticle Stage module as part of the MDEV DUV RS IBP&S team.
- Designed, tested and qualified test procedures, tools, and RS parts. Submitted 1 tech conf. draft for 2026 and 1 IDF.
- Worked with cross sector teams to deliver effective solutions and learn ASML WoW.

Teaching Assistant, Massachusetts Institute of Technology Lincoln Laboratory — June 2024 - August 2024
- Solved electrical design problems in the BWSI Microelectronics Course, enhancing high school students' learning experiences.
- Developed coursework on Microcontrollers, Sensors, Electro-mechanical Actuators, improving instructional quality.
- Organized a hackathon for 30+ participants, fostering innovation and practical skills.

Tech trainee intern, Tesla — Aug 2023 - May 2024
- Analyzed system communications, performance using advanced diagnostic tools - CAN analyzer and Pico scope.
- Reduced diagnostic time by 30% through successful Root Cause Analysis and resolution of hardware, software issues.
  Applied expertise in electric powertrain design principles and autonomous driving system interactions.

Mechanical Design Engineer Intern, ACME process systems pvt. Ltd. — Feb 2021 - Aug 2021
- Integrated ANSYS for fluid flow simulation in R&D, resulting in a 30% increase in simulation accuracy.
  Transformed 10 chemical mixer designs into optimized 3D models, improving product design efficiency by.
- Established streamlined procedures for 3D modeling, fluid dynamics simulation setup, reducing analysis time by 20%.

Vehicle dynamics engineer, Team Manipal racing — Aug 2018 - May 2019
- Collaborated in a cross-functional team of 35 students to design a BAJA-SAE vehicle.
- Utilized iterative design optimization techniques to develop 20% lighter steering knuckles.
  Played a key role in the fabrication, assembly, and testing of 2 key vehicle components, Steering knuckles, and Suspension linkages, hands-on experience and proficiency in manufacturing processes, and using machine tools.

Projects

Neurological Disability Assistive Technology Wearable Medical Device — Jan 2023 - Nov 2024
Mechanical Engineer, Arizona State University
- Led a team of 6 students in collaborating with doctors at Barrow Neurological Institute, optimizing fitment and ergonomics of electric stimulation pads. Project Management.
  Spearheaded electro-mechanical design, Rapid-prototyping, 3D-Printing responsibilities methods to 3D print electric stimulation pad design prototypes, enhancing user accessibility and ease of operation.
  Manufactured and assembled the innovative prototype using laser cutting, 3D Printing FDM/SLS with medical grade materials resulting in Best-Project Award and patent application. (US Patent application number: 66/611,833).

Collision avoidance system for Autonomous vehicle in ethically challenging situation — Jan 2024 - May 2024
Designed MATLAB/Simulink simulations for decision making and collision avoidance algorithms.
- Identified autonomous driving scenario that may occur 10-15% more often as number of autonomous vehicles increase.
- Used Automated Driving toolbox, and Model Predictive Control toolbox.

Prosthetic Hand — Jan 2023 - May 2024
- Designed a realistic 3D printed prosthetic hand with real-time motor control system, sensor fusion integration.

Wildlife camera trap with live stream on mobile app. (ESP-32, Arduino, NodeJS, AWS, HTML, CSS, git) — Aug 2023 - Dec 2023

Additional Skills

- Collaborated with doctors in clinical requirements translation, disposable medical equipment design (ASU).
- Hands on experience with fabrication, test equipment, test and validation processes and data analysis (ASU).
- Debugging and analyzing complex electrical circuits in complex autonomous systems (Tesla).
- Worked with data acquisition and digital signal processing using various sensors and sensor fusion (ASU).