Shalini Bansal

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EDUCATION

Master of Science in Computer Science   January 2025 - Current
Sofia University, Irvine, California

Master of Science in Mechanical Engineering   January 2021-December 2021
University of California, Riverside, California

Bachelor of Engineering in Mechanical Engineering   August 2016 – September 2020
Visvesvaraya Technological University, Karnataka, India

WORK EXPERIENCE

Machine Test Engineer 2, Haas Automation Inc., Oxnard, California.   *June 2022-Current*

- Led end-to-end development of CNC test parts, incorporating DFM/DFA from CAD design in Fusion 360 through 5-axis machining and inspection to validate machine functionality.
- Designed and machined a wood-router spacer for customer machines, using GD&T to optimize alignment clearances for easier assembly, reducing installation effort and cutting production time by 12%.
- Developed and executed test plans to validate new CNC machine features against engineering requirements, applying hands-on machining and root cause analysis to identify software bugs early in development.
- Automated 200+ regression tests using Python and Haas scripting, accelerating machine validation.

Research Assistant, University of California, Riverside, California   *January 2021-December 2021*

- Designed components of a torsion-actuator assembly in SolidWorks for a steerable robotic catheter used in minimally invasive cardiovascular surgery.
- 3D-printed plastic parts and assembled precision electromechanical components to build the actuator.
- Conducted motion tests on the assembly and implemented iterative design changes to improve performance.

Summer Intern, Hindustan Aeronautic Limited, Karnataka, India   *February 2020-June 2020*

- Performed FEA on an aircraft-engine blisk to determine optimal machining parameters, reducing cycle time by 6%.
- Machined a prototype blisk on a 5-axis CNC mill and evaluated surface roughness to verify machining parameters.

Student Member, Human Powered Vehicle Challenge, India   *February 2019-January 2020*

- Collaborated with a 22-member multidisciplinary team to design and fabricate a human powered recumbent bicycle; drove the vehicle in the endurance and speed competition.
- Owned the handlebar mechanism design of the bike in CATIA V5; analyzed chassis dynamics in ANSYS 18.

SKILLS

CAD/CAE   : SolidWorks • Catia-V5 • Fusion 360 • ANSYS • Creo • GD&T • AutoCAD • Siemens NX • FEA •
Machining   : CNC machining (Lathe, Mill, 5-axis) • 3D Printing • Laser Cutting • Welding • Soldering • Sheet Metal • Lean Manufacturing • G/M Codes • DFM/DFA •

LEADERSHIP EXPERIENCE

- Trained and mentored 15 engineers at Haas Automation in CNC machining best practices, enabling them to test software bug fixes and machine motion with confidence.
- Advised and supported 2 undergraduates at UCR's Women's Resource Center on graduate school applications, providing guidance on personal statements, research alignment, and career planning.
- Organized student body discussions for 300+ undergraduates at UCR during onboarding orientation, fostering a supportive community and peer support among incoming undergraduates.
- Led Women's Handball and Softball teams during undergraduate college; captained the softball team to an inter-university title.