ANANTH DURBHA

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EDUCATION

University of Delaware — **Newark, DE**
Master of Science, Mechatronics, Automation and Robotics — **02/2023 – 05/2024**
RK College of Engineering, Affiliated to JNTU Kakinada — **AP, India**
Bachelor of Technology, Mechanical Engineering — **06/2019 – 06/2022**

WORK EXPERIENCE

Maschinenmensch — **Brooklyn, NY**
Robotic Engineer Intern | On-site — **08/2024 – Present**
• Currently working on Stereo Vision, AI/ML, and human-in-the-loop training for **AUV, AGV**, and Painting Drones with Nvidia Jetson. while designing control systems to enhance underwater navigation and autonomy.
• Configured **MAVROS** for **ROS-Pixhawk 4** with telemetry and PixFlow for autonomous/manual controls.

Sarvani Telecom Pvt. Ltd. — **Hyderabad, India**
Junior Automation Engineer | On-site — **04/2022 – 01/2023**
• Implemented **SCADA** systems with **PLCs, RTUs**, and proper shutdown procedures, boosting efficiency by **20%** and reducing downtime by **25%** through remote monitoring.
• Managed machine health checks, alarms, and engine compliance, collaborating with dispersed teams for system installation, maintenance, and troubleshooting and available 24/7 on call work.

RR Industries — **AP, India**
Mechanical Supervisor | On-site — **06/2018 – 05/2019**
• Operated and maintained shrink wrap, packing, and hydraulic press machines, reducing downtime by **15%** through regular checks and preventive maintenance.
• Trained workers and optimized inventory, boosting production by **10%** and reducing shortages by **12%**.

South Central Railway — **AP, India**
Mechanical Intern | On-site — **05/2017 – 06/2017**
• Manufactured railway components (rivets, bolts) to ISO standards, improving efficiency and reliability.
• Led stress testing, achieving **95%** stability, troubleshooting systems, and collaborating across teams.

SKILLS

• **Programming languages:** Python, C, C++, MATLAB, HTML, CSS, SQL
• **Frameworks/Tools:** Scikit, SciPy, OpenCV, TensorFlow, Keras, PyTorch, Flask, ROS, UiPath, Git, Linux, Arduino, Simulink, RPA, LLMs, MPI, CUDA, ROBOGUIDE, GAZEBO, SLAM, LiDAR, Unity, Blender, GPU
• **Mechanical/Control Systems:** SolidWorks, Ansys, AutoCAD, Process Simulate, Lean Six Sigma, PLC, HMI, SCADA, Siemens, RS Logix 500, Studio 5000, Ladder Logic, RTU, Allen Bradley, Rockwell
• **Others:** Motion Control, Electromechanical Design, Production Processes, Health & Safety

PROJECTS

Autonomous Firefighting Vehicle, **University of Delaware** **04/2024**
• Developed **'Fire Bot**,' a firefighting robot with **90%** fire detection accuracy using Arduino Uno and ATmega328P.
• Attained **95%** success rate in ladder & water deployment through pipeline in hazardous environments.

Autonomous Hexapod: Bio-Inspired Robotic Walker, **University of Delaware** **03/2024**
• Designed a bio-inspired hexapod robot with **80%** maneuver precision using MATLAB and Arduino.
• Refined functionality by adjusting 18 servos and gait patterns for robust terrain navigation in search and rescue.

Multi-Resolution Stereo Analysis System, **University of Delaware** **09/2023**
• Crafted a CUDA-Optimized stereo analysis system with **85%** depth accuracy using SAD, SSD, and NCC methods.
• Improved disparity correction by **93%** in occluded areas with bidirectional matching and validity checks.

Robotic Arm Trajectory Planning for a Target Positioning, **University of Delaware** **04/2023**
• Executed a 10-second trajectory planning for the **KUKA LBR iiwa 7 R800** robotic arm with high precision.
• Obtained **95%** trajectory precision through MATLAB simulations using the Robotic Toolbox.

Design and Analysis of Knee Implant Using FEM **RK College of Engineering, JNTUK** **03/2022**
• Directed the design and analysis of a knee implant utilizing **CATIA V5R20 and ANSYS 14.5**, using CAD.
• Conducted load analysis under realistic conditions, achieving a maximum von-Mises stress of **250 MPa**.