Arjan Gupta

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Education

Worcester Polytechnic Institute
Master of Science in Robotics Engineering, GPA: 4.00/4.00 — August 2022 — Present
Autonomous Vehicles Specialization

University of Kansas
Bachelor of Science in Computer Engineering, Mathematics Minor — August 2013 — May 2017

Projects

- 6 DoF Robotic Arm — assembled arm, wrote its controller and kinematics in Python, and moved it using servos and a Raspberry Pi. Designing a computer-vision based localization system for it
- Path Planning in Lung — designed a path planning algorithm for a capsule robot to navigate through a human lung, then simulated it in MATLAB
- Gazebo Simulation — created a simulation of a 3 DoF robotic arm, then wrote a ROS node to control it

Work Experience

Lev Technologies — Remote
Co-Founder & Engineering Expert — *June 2023 — present*

- Helped launch the usage of custom-trained YOLOv7 object detection model to help daycare workers
- Designing the edge strategy to deploy the system on a Jetson Nano for real-time inference
- Collaborating with other founders to develop the technical road-map

Lindsay Corporation — Olathe, KS (Hybrid)
Embedded Software Engineer II — *December 2021 — present*

- Enhanced the firmware on the Smart Pivot to use GPS-path planning over MQTT
- Mentored entry level engineers and interns, guided them with debugging and profiling tools
- Served as a technical lead on Smart Pivot main UI panel, responsible for the entire software stack
- Developed wrappers for drivers to support on-board chips and sensors
- Completed a hardware & firmware replacement of Sub-GHz mesh network on a legacy product

AGI SureTrack — Lenexa, KS (Hybrid)
Embedded Software Engineer I & II — *October 2019 — December 2021*

- Helped maintain LiDAR product with a 3 DoF robotic arm for grain inventory management
- Coordinated engineering work as a team lead, guided productivity and helped meet milestones
- Owned the product development and commercial launch of a new IoT Gateway product
- Designed and implemented backend web-services for automated firmware updates

ZOLOZ — Kansas City, MO
Software Engineer — *June 2017 — October 2019*

- Developed and maintained biometric matching systems for a 2 DoF camera (pan-tilt)
- Implemented and optimized C++ image scaling and compression algorithms
- Supported the R&D department to fine-tune several computer vision models for object detection

Technical Skills

Programming Languages:	C, C++, Python, TypeScript/JavaScript, URDF, Bash, MATLAB
Robotics/AI Frameworks:	ROS, Gazebo, OpenCV, PyTorch, Foxglove Studio, YOLOv7
Development devices:	Raspberry Pi, NVIDIA Jetson Nano, Arduino, ESP32
Operating Systems:	Linux, Windows, FreeRTOS, Android

Course Certificates

Coursera

Neural Networks and Deep Learning — Issued May 2023 | Credential ID R6Q353L77JC6
Machine Learning — Issued Aug 2022 | Credential ID KKFMWZ7WZCF7

Udemy

YOLOv7 YOLOv8: Deep Learning — Computer Vision 2023 — In-progress