# Arjan Gupta

Kansas City, MO · arjangupta95@gmail.com · 661-699-3095 · github.com/arjangupta

## Technical Skills

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|---|---|
| Programming Languages: | C, C++, Python, TypeScript/JavaScript, URDF, Bash, MATLAB |
| Protocols: | UART, SPI, I2C, MQTT, TCP/IP, NTP, HTTPS, Cellular (AT), Digi Wireless |
| Microcontrollers: | NXP (MK70, IMXRT1064), PIC18, ATmega2560, ATTiny85 |
| Operating Systems: | Linux, Windows, FreeRTOS, Android, mbedOS |
| Robotics/AI Frameworks: | ROS, Gazebo, OpenCV, PyTorch, Foxglove Studio, YOLOv7 |

## Work Experience

**Ainstein AI** — Lawrence, KS (Hybrid)
*Senior Embedded Software Engineer* — *November 2023 — present*

- Developing radar sensing systems for golf shot tracking

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

- Enhanced the firmware on the Smart Pivot system to use GPS-path planning over MQTT
- Completed a hardware & firmware replacement of Sub-GHz wireless mesh network on a legacy product
- 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
- Collaborated in board-bring up, developed wrappers for low-level drivers

**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

**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)
- Aided board-bring up and firmware development for Portable Auger product
- Implemented and optimized C++ image scaling and compression algorithms
- Supported the R&D department to fine-tune several computer vision models for object detection

## Projects

- **Autonomous Drone Simulation** — replicating a state-of-the-art research paper that uses deep reinforcement learning to train a drone to fly through a room and avoid obstacles
- **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

## 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

## Course Certificates

**Coursera**

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