Arjan Gupta

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Skills

Programming Languages:	C/C++, Python, TypeScript/JavaScript, SQL, Bash
Tools:	Git, VS Code, Unix-like command-line, CMake, Makefiles
Testing frameworks:	GTest, Jest, unittest, FFF
Operating systems:	Ubuntu with i3, Windows 10 (with WSL 1, 2), Debian, MacOS, FreeRTOS, emBOS

Work Experience

Lindsay Corporation — Olathe, KS
Firmware Engineer — December 2021 - present

- Completed a hardware and firmware replacement of Sub-GHz mesh network functionality on a legacy product, using UART comms on board
- Improved GPS/GNSS functionality on part of the traditional Zimmatic system
- Enhanced the firmware on the Smart Pivot Panel (aka 712C Panel) to transceive communications over MQTT
- Aided in the board bring-up of the Smart Pivot tower board
- Collaborated in porting the Tower Board firmware from one NXP microcontroller to another
- Implemented wrapper for SPI driver, used it to support embedded Flash memory and accelerometer features
- Worked on tire pressure monitoring for smart pivot, involving a Sub-GHz wireless module and sensor
- Rerouted data flowing via Modbus (on RS485) comms on main panel to MQTT

AGI SureTrack — Lenexa, KS
Embedded Software Engineer I & II — October 2019 - December 2021

- Coordinated engineering work as a Team Lead, guided productivity and helped meet milestones
- Redesigned and greatly improved the Gateway codebase for moduarity and code-coverage
- Helped maintain LiDAR product, where a major portion of the redesigned Gateway code was re-used
- Aided firmware development for Portable Auger product with ESP32 SoC
- Implemented on-site diagnostics (LEDs, logs view) for device installation and connection diagnosis
- Implemented a backend web-service for automated firmware updates
- Proved and integrated 3G & 4G cellular IoT capabilities of the Gateway product for wider sales
- Inherited ownership of the Gateway product, brought it to market-release in 10 months

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

- Implemented and optimized C++ image scaling and compression algorithms
- Supported the R&D department to fine-tune several computer vision models for object detection
- Traveled to New Delhi, India to assist the integration with major payment services app called Paytm

Education

Worcester Polytechnic Institute
Master of Science in Robotics Engineering, AV Specialization — August 2022 - December 2025

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

Research Work

Computer Vision Research under Dr. Guanghui Wang
Co-authored a research paper at KU ITTC on an object tracking algorithm for UAVs. Created ground-truths, wrote code to test the efficiency of the algorithm (in MATLAB). Reported the results for the paper.

Certificates

Coursera
Machine Learning — Issued Aug 2022 | Credential ID KKFMWZ7WZCF7