

Orbeen Alam

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EXPERIENCE

GPD EXCEL Lab Systems Integration Engineer

May 2025 – August 2025

General Motors, Global Tech Center - Warren, MI

- Engineered an open-source AI-driven support assistant in Go to reduce LSIE wait times and empower lab technicians with self-service troubleshooting.
- Applied AI engineering principles to build a secure, context-aware tool confined to the Software Defined Perimeter (SDP), ensuring full intranet compliance.
- Engineered for scalability across lab environments, allowing seamless adoption regardless of setup.
- Translated lab technician feedback into practical features—automating common diagnostic workflows and reducing reliance on A&D support for iTest.
- Positioned the tool for future AI model integration and site logger connectivity to evolve into a fully autonomous lab assistant suite.

GPD EXCEL Service Quality Engineer

May 2024 – August 2024

General Motors, Global Tech Center - Warren, MI

- Designed and implemented a comprehensive software solution for monitoring and analyzing CAN (Controller Area Network) and LIN (Local Interconnect Network) messages within automotive systems.
- Developed and maintained a standalone executable and python script, Parasitic Monitoring, that logs system power modes, captures ECU (Electronic Control Unit) current measurements, and generates detailed visual plots for diagnostic purposes.
- Installed and developed current measuring hardware, TubeAmps, onto automotive system benches for current monitoring of ECUs to tackle parasitic drainage of 12v battery systems.
- Worked closely with cross-functional teams, including hardware engineers and system integrators, to ensure the software met all technical requirements and functioned reliably in a production environment.

GPD EXCEL Battery Systems Engineer

May 2023 – August 2023

General Motors, Global Tech Center - Warren, MI

- Designed and developed software for electric vehicle battery systems using Python and C++.
- Utilized GM's proprietary Ultium battery technology to create scalable and modular software solutions for various vehicle segments and architectures.
- Applied software engineering best practices such as version control, code review, testing, and documentation.
- Supported software integration, verification, and validation activities using GM's global EV platform and tools.
- Researched and evaluated new software technologies and trends to improve battery system performance and efficiency.

Electronic Control Systems Engineering Co-Op

May 2022 – May 2023

American Axle and Manufacturing – Detroit, MI

- Developed and implemented battery management system (BMS) software for electric drive units using C++ and MATLAB/Simulink.
- Performed testing and validation of BMS functionality and performance using hardware-in-the-loop (HIL) and software-in-the-loop (SIL) methods.
- Collaborated with cross-functional teams to integrate BMS with other vehicle systems and components.
- Troubleshoot and resolved software issues and defects using debugging tools and techniques.
- Documented and communicated software requirements, design, and test results to internal and external stakeholders.

EDUCATION

May 2026

Purdue University

Bachelor's of Science in Computer Engineering