MUSTAFA ALMOMAR

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EXPERIENCE:

Software Integration Engineer

Robert Bosch — Plymouth, MI | October 2020 – July 2025

- Directed end-to-end software integration and release across 16+ vehicle variants, utilizing Git, GitHub, and CI/CD pipelines to ensure robust version and dependency management.
- Managed pull requests and automated nightly repository builds to enhance software quality and detect regressions at early stages.
- Streamlined development workflows by automating remote Hardware-in-the-Loop (HIL) bench control via Python scripting, reducing setup time and enabling environment replication through a shared GitHub repository.
- Led initiatives to significantly decrease CPU utilization from 97% to 84% in NRCS & Parking ECUs, directly enabling new ADAS features such as trailer assist and improved rendering capabilities.
- Implemented and enforced quality gates and improved build reliability, including defining CODEOWNERS rules, resolving integration issues, conducting detailed code reviews with manual test evidence, and integrating Coverity for MISRA compliance into the CI/CD pipeline.
- Enhanced Jenkins smoketest pipelines by developing C++ test cases and integrating Robot Framework, ensuring comprehensive validation for pull requests and nightly builds.
- Proactively implemented email notifications to distinguish build failures caused by bench availability from actual software defects, improving troubleshooting efficiency.
- Orchestrated full software release execution, preparing all required artifacts from binaries and QAC reports to debug data, assigning security keys, and ensuring complete documentation for delivery to Bosch and OEMs.

Software Engineer – Brake Component Validation & Data Automation

Federal-Mogul (Tenneco) — Plymouth, MI | July 2017 – October 2020

- Designed and deployed Python-based tools for brake pad materials testing, including a custom-built humidity chamber to simulate high-soak endurance cycles.
- Developed C# applications to streamline test data management from both dynamometer and friction tests, improving data accessibility and analysis.
- Automated test workflows using VBA and internal web tools, significantly reducing human error in validation plans and enhancing efficiency.
- Executed comprehensive brake component testing and analysis, automating data collection and providing critical support to engineers for NVH (Noise, Vibration, Harshness), fade, and thermal performance validation.
- Utilized basic CAD tools for precise 3D brake pad scanning and shim design modifications during the component development phase.

EDUCATION:

Bachelor of Science in Computer Science and Engineering

University of Toledo — Toledo, OH | August 2013 – May 2018