Nilesh Jain

nilesh.embedded@outlook.com | www.linkedin.com/in/nilesh-jain1434/ | (312) 522-2251

PROFESSIONAL SUMMARY

Organized and self-driven **Embedded System Engineer** with **3+ Years** of professional experience. Fluent in **Embedded C/C++**, **CAN**, **Python**. Possess hands-on knowledge of **automotive field testing**, **retrofitting**, **MES**, **troubleshooting**, **HIL testing** and **Automotive SPICE**. Leverages **Agile** methodology to strengthen **test-driven** and **development** initiatives. **Adaptive** to new technologies and trends and constantly seeking to learn.

EDUCATION

University of Illinois at Chicago • **BS Computer Science | Minor in Mathematics**
Dean's List | Honors College

WORK EXPERIENCE

Software Engineer (Embedded/Firmware Development & Testing) – VGC, New Jersey **Jan 2023 – Present**

- Engineered test development using **C**, **C++**, **CPPUNIT** architecture and python using **Pytest**.
- Helped clients with IT Solutions, **Troubleshooting** and **Debugging** leading to expansion of the company and gained trust among the clients.
- Used **Jenkins** as build management tool for continuous integration process along with **Git** as **Version Control** tool.
- Involved in bug fixing of various modules that were raised by the testing teams in the application during the integration testing phase.
- Analyzed software specifications and identification of controller-based application design, development, and testing.

Software Engineer (Embedded/Firmware Development & Testing) – VGC, New Jersey **Jan 2022 – Nov 2022**

- Utilized **C/C++** to develop software applications with **Bluetooth** and **Ethernet** functionality and **Python** for testing, data analysis and visualization.
- Followed **test plans** through automation, collecting and analyzing test results to test multiple devices in the field to get necessary logs.
- Utilized **PuTTY** for serial communication and remote debugging during firmware testing phases, identifying, and resolving software issues.
- Deployed the developed firmware/software onto the target **ARM**-based embedded system.
- Employed **Git** for version control, enabling code management within a team of 6 members.

Junior Embedded Developer/Vehicle Test Engineer – Maruti Suzuki (Suzuki Motors Subsidiary), New Delhi, India **May 2020 – Feb 2021**

- Worked on design of low-level firmware and debugging drivers for **low-level communication protocols** (**CAN**, **LIN**, **SPI**, **I2C**), **CAN protocol (data-link & physical layer)** development and analysis using **CAN** tools and implemented robust error-handling mechanisms (**HIL testing**) to enhance the fault tolerance, ensuring the reliability of critical vehicle functions along with **ASIC** verification tools.
- Effectively integrated and validated **UDS Diagnostics** to achieve efficient and accurate communication between control units and diagnostic tools, thereby augmenting the diagnostic capabilities of the embedded system. Conducted simulations/emulations using **Simulink**.
- Conducted hardware installations and **retrofitting**, ensuring seamless integration of new components into prototype vehicles.
- Improved accuracy of **measurement equipment** usage by implementing a rigorous health check and maintenance schedule.
- Attended weekly/Daily Standups, Retrospective, Sprint Planning, Code Review and completed story points on **JIRA** tool and worked in **Agile Methodology** in a 2-week sprint environment.

PROJECTS

Flashing Lights (Best in Category - Engineering Expo 2022)

- Created a game using **Arduino** software and hardware simulation/emulation, where the user would have to memorize the sequence of lights and then select the correct positions of lights in order to proceed.
- 3x3 grid of lights with a single 2D joystick and LCD screen with a speaker.

15 Puzzle

- Created this program in **Eclipse (JavaScript)** and the purpose of this project is to see if the player can rearrange the 15 numbers in ascending order.
- Implements **Artificial Intelligence** heuristics to show different possible steps.

Exercise Break App

- This app was developed by using **MySQL**, **AWS** and **JavaScript**. It has a backend server which will store all information about the user and his/her progress.
- It is also linked to **Google Maps** so that people can see the nearest hydration point if they get tired.
- For the future, we have planned to make this app **Bluetooth** friendly so that the user can use Smartwatch.

SKILLS

Programming Languages: C/C++ | Python | Java | JavaScript | HTML/CSS | R | SQL
Frameworks & Libraries: React | Flutter | Dart | Automotive SPICE
Developer Tools: Node.Js | Git | GitHub | Docker | Jenkins | Virtual Studio Code | Eclipse | Anaconda | Android Studio
Testing: Unit Testing | Test Automation | HIL Testing
Protocols: CAN (data-link, physical) | CANalyzer (PCAN) | UDS/ECU | Ethernet | Bluetooth
Modeling Tools: MATLAB | Simulink
Operating Systems: Microsoft Windows | Linux Kernel | RTOS