

Beniga W H

+91 9080087592 — benigawilson55@gmail.com — linkedin.com/in/beniga

Summary — A highly motivated Platform Software Engineer with 2 years experience in embedded systems and automotive technologies, seeking a challenging opportunity to leverage my skills in developing innovative software solutions and driving high-performance results in a progressive organization.

Technical Skills

Languages:	C, C++, Python, FreeRTOS, Embedded C
Dev Tools:	Jenkins, Bitbucket, Git, Jama, Jira, Visual Studio Code, Hg, LDRA, Linux, Atlassian
Core Concepts:	Data Structures and Algorithms, IPC mechanisms
Standards:	ASPICE, ISO26262, MISRA-C
Protocols:	UART, JTAG, I2C, SPI, CAN

Work History

Uhnder Inc

Dec 2022 – Present

- **Platform Software Engineer (August 2023 – Present)**
 - Designed and implemented **Boot ROM** diagnostic tests for various chips in different lifecycle states, ensuring the early detection of critical hardware and software issues.
 - Expertised in working Boot manager activities, includes **key revocation** process and **efuse programming**.
 - Developed Python-based APIs to enable remote control of radar instruments.
 - Developed **SDK** applications in C++ to validate the public service API available in SDK.
 - Developed and debugged communication protocols using **UART** for data transmission.
 - Utilized **JTAG** for in-depth debugging of specific cores, improving system performance of the platform.
 - Developed **IPC** mechanisms to facilitate efficient and reliable communication between multiple cores in a multi-core architecture.
 - Implemented error injection mechanisms in C++ to validate and test functional safety(**FuSa**) features in compliance with **ISO 26262** standards.
 - Worked on **POST** (Power-On Self-Test) features, including **M-BIST** and **L-BIST**, for automotive radar software.
 - Have a knowledge on SoC peripherals like **clock**, **PMIC**.
 - Hands-on expertise in embedded software development adhering to **MISRA-C** standards.
 - Added multiple features based on software release requirements to improve the system performance.
 - Worked on bug fixing in the software by understanding the implementation of existing features.
 - Utilized the **LDRA** tool to execute unit tests for code-coverage analysis.
 - Developed automated test cases for individual modules with edge cases and exceptional scenarios to improve overall system reliability.
- **Software Engineer Intern (Dec 2022 – July 2023)**
 - Developed a project on "Access Control Restriction for **DDR**(Double Data Rate)" to ensure secure and controlled access by different cores and peripherals in the system"
 - Gained an understanding of **radar** embedded software and host systems.
 - Worked on Unit Testing using **gtest** (Google Test) framework to validate the functionality of newly integrated features.

Education

Bannari Amman Institute of Technology

July 2019 – March 2023

Bachelor of Engineering in Computer Science and Engineering

CGPA : 9.32

Certifications

- Search Engine Optimization Complete Specialization Course - Udemy
- Published IEEE Conference Paper on "Anti-theft monitoring for a smart home" - IEEE Xplore
- Aruba Networking Basics - coursera
- Version Control with Git - coursera

Projects

Smart Vehicle

- Developed an **IoT** based smart vehicle system focused on rider safety through real-time monitoring, hazard detection, and automated safety mechanisms.
- Integrated features such as collision detection, obstacle avoidance, and emergency response alerts to mitigate risks and ensure a safer riding experience.
- The system utilized cloud-based analytics and communication protocols to provide seamless connectivity and insights for both riders and administrators, advancing the concept of intelligent transportation.
- Awarded in the "International conference on Emerging trends in Engineering, Technology and Science(IETETS-2021)"

Anti-theft Monitoring for a Smart Home

- Developed and deployed an **IoT**-based anti-theft system for smart homes to enhance security through advanced real-time monitoring, threat detection, and instant alerts.
- Integrated sensors such as motion detectors, door/window sensors, and cameras with IoT-enabled microcontrollers to detect unauthorized access or suspicious activities.
- Published in IEEE Conference paper: **IEEE Xplore Publication** (<https://ieeexplore.ieee.org/document/9716311>).

Gas Leakage Detection Using Arduino Module

- Designed and implemented a gas leakage detection system using **IoT** technology with a help of **arduino** board to enhance safety in residential and industrial environments.
- The system utilized gas sensors interfaced with an Arduino microcontroller to continuously monitor the presence of hazardous gases like LPG, methane, or carbon monoxide.
- The system triggered real-time alerts through IoT-enabled platforms, such as mobile notifications or email, and activated safety mechanisms like alarms or exhaust fans.

Achievements

- Awarded Best Girls Team in S2E Summit 2019 hackathon for the project on Hologram using Raspberry pi.
- Secured 1st position for the project on Smart Vehicles in SZIKRA 2020