Sujan Nag

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OBJECTIVE

Detail-oriented, quality-driven software development professional with nine plus years of experience operating in the field of embedded system design and the automotive industry. Leading projects as an Architect both at the System and Software level, involved in every phase of a software development life cycle and developing solutions that satisfy business and customer needs.

KEY SKILLS

- Translate complex business problems into solutions that can be delivered iteratively.
- Interface with engineering and business owners for defining requirements and scope of work.
- Define system components and interfaces, assign responsibilities, and orchestrate workflows.
- Technologies/Protocol: AWS Services, MQTT, REST, JSON, Protobuf, Docker, Kubernetes.
- Programming Languages: C/C++, Python.
- Process and Methodologies: Agile, Scrum, Test Driven Development (TDD).

CERTIFICATIONS

- AWS Certified Solutions Architect – Associate. Issued Nov 2021, Expires Nov 2024.
- Certified SAFe® 5 Practitioner, Scaled Agile, Inc. Issued March 2021, Expired Feb 2022.

CLOUD EXPERIENCE

- Deployed static websites using AWS Route 53 and AWS Amplify.
- Deployed a development and test environment on the cloud using Docker and AWS, which can be used by multiple developers simultaneously.
- Simulated IoT devices using AWS, facilitating the testing of a data consumer service.

WORK EXPERIENCE

Jaguar Land Rover – *Software Architect (Feb 2022 - Present)*

- Gained empathetic understanding of business problem statements by interacting and brainstorming with internal customers and business leads to define key business needs around vehicle diagnostics issues.
- Based on user research, defined vehicle data collection system components and its interfaces, assigned responsibilities and documented system requirements.
- Collaborated with Cyber-security specialist to identify and mitigate cyber security threats. Primary responsibility was to imbibe suggested security design solutions into the system components.
- Interacted with Cloud System Architects to define the vehicle data structure that is used to facilitate data analytics in the cloud to resolve vehicle warranty issues.
- Communicated business use cases, defined the product functionality and client expectations to the software development and test team.
- Defined the functional and system test strategy for the product by working in collaboration with the test team.

- Mentored a group of two developers to build system design and software architecture skills by guiding them using a business use case to deliver Delta Software Over the Air Updates capability.

Jaguar Land Rover – *Senior Software Developer (Dec 2019 – Feb 2022)*

- Maintained technical ownership of a software component responsible for offloading critical vehicle signals and diagnostics data from an embedded platform to an off board server over MQTT.
- Led a team of highly skilled developers and testers responsible for the development, testing, and integration of the software component by providing them with technical assistance.
- Defined functional and non-functional requirements and KPIs for the product.
- Delivered high level design of the software components by defining solutions based on the use cases identified from business requirements.
- Designed and prototyped "Auto Learn VIN" capabilities for future JLR vehicles using a client server interaction over an Ethernet backbone which decreased the time taken to learn the VIN from a max of 120 seconds to 20 milliseconds.
- Designed and modelled diagnostics software components using SysML for Electrical Vehicle Architecture phase 3.

Jaguar Land Rover – *Software Developer (Sept 2018 to Dec 2019)*

- Developed diagnostics component based on ISO 14229-1.
- Designed and implemented a solution to consume "Diagnostics Attributes" by a non-Autosar embedded ECU at runtime.
- Resolved vehicle manufacturing blocker related to battery drainage issue by working in collaboration with Tier 1 supplier to deliver the power management module for the Telematics ECU.
- Improved the build process by introducing the concept of automated tests in the pipeline to be executed on a HIL test rig which helped to identify bugs before reaching the mainline.

Honeywell Automation India Limited – *Firmware Developer (May 2015 to Aug 2017)*

- Developed an RF-based security lock system, starting from conception, requirement specification, driver and application code development on a bare-metal MCU platform.
- Developed a reusable software component based on event driven architecture to handle multiple events and interrupts which reduced the subsequent project development time by 20%.
- Developed an Internet of Things, IoT, BLE based beacon device, which is employed in traffic notification systems to alert drivers of pedestrians and other road hazards.

Spectross Digital Systems – *Embedded Design Engineer (February 2013 to May 2015)*

- Developed a Dual Port Ethernet device with MSC USB Host side and Device side device driver, for the Indian Defence, capable of encrypting and decrypting data during transmission by parsing TCP/UDP and USB packets.
- Increased the throughout of read-write operations from KBPS to MBPS by implementing DMA for Dual Port Ethernet device.
- Managed a team of 2, to successfully develop a Zigbee based asset tracker system, where small nodes were installed on assets, and a PAN network was created to keep track of the assets.

EDUCATION

MSc Computer Science (Future Networks), First Class Grade, 70% (Sept *2017 – Aug 2018)* Trinity College Dublin, Dublin, Ireland

Bachelor of Engineering (B.E.) (Electronics and Telecommunication) 68.5% (*2008 – 2012)* Tripura Institute of Technology, University of Tripura, India.

EXTRACURRICULAR INVOLVEMENTS

- Mentoring a group of college students on developing and hosting a Travel Blog on AWS by adapting industry standards of software development process. Aim is to give them an exposure to an end to end product life cycle.
- Winners of the CITI Upstart Program, 2017-18. Its a program where mentors from CITI, guides for Innovation and Entrepreneurship activities.
- Got selected for the Trinity Employability Award in Partnership with Intel, 2017 -18, one of the 72 students selected from Trinity College Dublin.
- Selected for the role of Class Representative in Computer Science, Trinity College Dublin.