

Gaurav Agarwal

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Summary

Software engineer with 8+ years of experience across the full development lifecycle, delivering scalable, high-reliability systems in aerospace R&D, startups, and enterprise environments. Driven to build robust, technology-agnostic solutions and contribute to forward-thinking teams solving complex engineering problems.

Work Experience

Boeing India Pvt. Ltd.

Bengaluru, India

SOFTWARE ENGINEER 3 | EMBEDDED & AVIONICS SYSTEMS

Nov'19 - Present

- Delivered platform software across **Cockpit Displays, Common Core, Compute Platform, and Cabin Experience systems** on heterogeneous hardware, building **Linux** and **RTOS**-based real-time services with strong focus on reliability, observability, and cross-system integration.
- Designed scalable backend architectures, service interfaces, and data models, translating complex system requirements into modular APIs and production-ready services while collaborating across teams to drive standards, maintainability, and design consistency.
- Built containerized services and automation workflows on Linux platforms, leading end-to-end development from feasibility and architecture through implementation and code reviews, ensuring traceable, testable, and maintainable software delivery.
- Developed platform infrastructure including middleware, communication frameworks, and diagnostic tooling, optimizing performance, fault tolerance, and data handling across distributed environments and hardware-in-loop test systems.
- Implemented CI/CD pipelines using GitLab CI and Docker, automating build, integration, and deployment workflows to improve release velocity, reproducibility, and overall system stability across multiple product lines.
- Configured custom hardware architectures and optimized Board Support Packages, including U-Boot, kernel, custom Yocto recipe-based root file systems, cross-compilation toolchains, and device trees, to enable efficient secure boot processes and enhance runtime performance for custom hardware platforms.

Team Indus (Axiom Research Labs Pvt. Ltd.)

Bengaluru, India

FLIGHT SOFTWARE ENGINEER | INTEGRATED AVIONICS | COMMAND & DATA HANDLING

Jan.'17 - Oct'19

- Developing software systems for orbital, descent and surface phases of the soft landing lunar mission, with onboard state estimation, autonomous attitude correction, lunar terrain feature tracking, active thermal and power control, interface drivers for sensors peripherals and other interfacing cards, with limited fault detection, isolation, and recovery.
- Developed framework for Processor in Loop Simulation (PiLS) system emulating sensor and actuator electrical interfaces to lander avionics unit.

Technical Skills

Programming Languages	C, C++, Python, Java, Bash, SQL, GraphDB, MongoDB, Matlab & Simulink, LaTeX
Platform Software	AWS (EC2, S3, Lambda), Nginx, Docker, Kubernetes, Load Balancers, Kafka, Yocto
DevOps & Tools	Git, GitLab CI/CD, Jenkins, Vagrant, Doxygen, CVE, Polyspace, Postman
Communication Protocols	UART, SPI, I2C, CAN, ARINC, ADC, HTTP/HTTPS, REST APIs, TCP/IP, MQTT, FTP
Full-Stack Development	REST API, PostgreSQL, GraphDB, SQL, React.js, OAuth, JWT, Nginx
Operating Systems	RTOS (DEOS, VxWorks, FreeRTOS), Linux (Ubuntu, CentOS, Yocto, Buildroot), Windows

Education

P.E.S Institute of Technology, Autonomous Institute under VTU, Belgaum

Bengaluru, India

B.E IN ELECTRICAL AND ELECTRONICS ENGINEERING

Aug.'13 - May'17

- GPA: 8.93/10.00

Kerala Samajam Model School

Jamshedpur, India

I.C.S.E, I.S.C IN PURE SCIENCE WITH COMPUTER APPLICATION

Mar'99 - May'13

- ICSE: 93.4%, ISC: 88.75%