

Aayush Tyagi

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EXPERIENCE

Nvidia, Bengaluru

Software Engineer

Nov2025—Present

Bengaluru, India

- Working on **virtual Hardware Management Controller (vHMC)** architecture for next-generation data center platforms, focusing on remote manageability, scalability, and reliability.
- Developing and maintaining BMC-side services in C/C++ and Linux environment for power, thermal, and platform monitoring.
- Designing modular components for virtualization of hardware resources, enabling multi-node management and secure remote operations.
- Technologies Used: Linux, C/ C++, Python, OpenBMC

Samsung Electronics, Noida

Software Engineer

June2022—Nov2025

Noida, India

- Developed and optimized **drivers and firmware in C/C++ for Samsung's sensor hub**, with a focus on low-latency, power-efficient system operation on wearable devices (earbuds/ XR/ smartwatch) and smartphones.
- Contributed to the **Samsung Health app** by developing and maintaining exercise algorithms, including the Heading Estimation, written in C++, enhancing fitness tracking accuracy by 30% and improving overall user experience.
- Collaborated with **Samsung HQ teams in South Korea**, participating in technical discussions and project strategy meetings, and traveled for key milestones, contributing to the on-time release of 3 major projects.
- Successfully resolved **100+ Voice of Customer (VOC) for Samsung Earbuds/ Smartwatch/ Smartphone** ensuring device stability and performance improvements, resulting in a 15% reduction in customer complaints.
- Tech Stack: C, C++, Android (Java), Wear OS, BSP, Embedded Systems

Samsung Electronics, Noida

Software Engineer Intern

Jan2022—June2022

Noida, India

- Developed gym repetition tracking features for exercises like rowing, elliptical, and cycling.
- Technologies Used: Artificial Intelligence, Android (Java), Python, C/ C++, DSP

PROJECTS

vHMC – Virtual Hardware Management Controller (C/C++, OpenBMC, Linux, Redfish)

- Designed modular services enabling **virtualized hardware resource management** across multi-node systems.
- Integrated Redfish/IPMI interfaces for remote platform manageability and telemetry exposure.
- Performed low-level debugging and root cause analysis across firmware, host interfaces and management stack.

Heading Estimation – Wear OS & Embedded AI (C/C++, Java, Android SDK, AI/ML, Linux)

- Designed and implemented heading estimation at the system layer using Embedded C, improving GPS accuracy by 40% for Samsung smartwatches.
- Submitted one **IP (Intellectual Property)** for the solution building a strong business model for Samsung.
- Enhanced GPS accuracy by 30%, improving user experience for millions of smartwatch users.

Wear Algorithm – Galaxy Earbuds/ VR, Android (Android, Sensor Hub, C/C++, Linux)

- Built embedded driver code for wear-OS to classify device wear status (e.g., earbuds on ears, XR) using skin/ proximity sensors.
- Successfully commercialized algorithms for Samsung's Buds3/3Pro lineup and upcoming VR products.

EDUCATION

JC Bose University of Science and Technology (YMCA Faridabad), B.Tech., ECE CGPA: 8.2

Jul 2018—June2022

TECHNICAL SKILLS

Programming Languages

C/C++, Python, Java

Software Development

Multiplatform (Embedded, RTOS, BMC, OpenBMC), Object-Oriented Design

Embedded System

DSP, RTOS, Power Optimization, Wear OS, OpenBMC, Linux Kernel

ACCOMPLISHMENTS AND AWARDS

- Qualified and participated in ACM ICPC regionals.
- Samsung SWC Professional
- Submitted IP(Intellectual Property) for Sensor GPS Fusion in Wearable Devices(XR/ Smartwatch/ Earbuds)**