

**Subject:** Application for Firmware Engineer Intern – Summer 2025

Dear Hiring Manager,

I am excited to apply for the **Firmware Engineer Intern** position at **Airgain**. With a strong background in **embedded systems, firmware development, and hardware testing**, I am eager to contribute to Airgain's mission of optimizing wireless connectivity through innovative engineering solutions.

Currently, I am pursuing my **Master's in Computer Engineering at Virginia Tech (GPA: 3.9/4.0)**, where I focus on **low-level firmware development, embedded systems, and hardware-software integration**. My hands-on experience in **embedded C, C++, Python, and hardware debugging tools like oscilloscopes and multimeters** makes me a strong candidate for this role. I have previously worked at **ARTPARK @ IISc Bangalore, Flux Auto, and Futuristic Labs**, where I developed and optimized **real-time embedded firmware** for robotics and autonomous systems.

At **ARTPARK**, I designed and implemented **firmware for quadraped robots**, integrating **STM32 microcontrollers** and optimizing **power consumption and communication using CAN and ROS**. My work at **Flux Auto** focused on developing **firmware for off-road autonomous vehicles**, ensuring **efficient hardware-software integration and debugging embedded electronics**. Additionally, my **Google Summer of Code (GSoC) project with BeagleBoard.org** highlights my commitment to **open-source hardware development and embedded software optimization**.

What excites me about Airgain is the opportunity to work on **wireless connectivity solutions and RF engineering challenges**. My experience with **embedded hardware prototyping (Arduino, Raspberry Pi, and Nucleo)**, **firmware optimization, and automated testing** aligns well with the **responsibilities outlined for this internship**. I am particularly eager to contribute to **product debugging, hardware testing, firmware optimization, and CI/CD pipeline improvements** while learning from industry experts in wireless technology.

I would welcome the opportunity to further discuss how my skills and experience can add value to Airgain. Please find my resume attached for your review. Thank you for your time and consideration—I look forward to the possibility of contributing to your team.

Best regards,

**Pranav Kumar**

<https://linkedin.com/in/pranav083> | <https://github.com/pranav083>

pranavkumar@vt.edu | +1-540-934-8078