Gavin Guinn
221 6 Ave SE, Unit 403, Calgary, AB
gavinguinn1@gmail.com
(587) 889-9815

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Dear Hiring Manager,

As a Embedded Software Developer at Simply Embedded, I developed and delivered production-grade C/C++ firmware for 32-bit ARM microcontrollers in high-reliability environments, focusing on robustness and security. My work was grounded in a systems-level understanding of IoT applications, with deep expertise in integrating cellular networking to maintain secure, stable data transmission in complex deployments. In recent projects, I used Python to manage device telemetry in cloud environments, particularly with Azure, to analyze IoT data streams. This involved deriving insights from telemetry of malfunctioning devices, such as frequent disconnections in cellular modems. Based on these findings, I collaborated with the Quality Assurance team to develop a solution for an upcoming firmware release. I was also responsible for device testing and commissioning, creating and performing tests to ensure that custom hardware met quality standards. Collaboration played a central role in my work. I led intern onboarding and mentoring, fostering an environment that emphasized rapid skill acquisition and practical problem-solving. Additionally, I collaborated directly with electrical engineers to ensure efficient hardware-software integration, addressing issues at both the circuit and system levels. Beyond my technical contributions, I was involved in client engagement, project planning, and lifecycle management. I traveled to client offices for week-long, intensive meetings to translate their needs into actionable development goals, which I then executed over the following months. These skills were critical in managing changes and ensuring the long-term viability of the solutions I delivered.

In my NSERC-funded research in computational number theory, I tackled complex mathematical problems by developing algorithms in C and OpenMP to study Aliquot sequences. This experience required learning and adapting to a range of computational challenges, translating abstract mathematical concepts into efficient code. I gained a strong foundation in quickly assessing requirements, iterating on solutions, and adapting as I encountered new complexities—skills that underpin versatility in software development. The project emphasized clarity and precision, as I collaborated with my advisor to ensure our findings were both rigorous and accessible. This cultivated my ability to communicate complex technical details effectively and reinforced a disciplined, adaptable approach to software.

Sincerely,

Gavin Guinn