Today's Date

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Company
1234 Street
City, State, 12345,
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Dear Hiring Manager,

I'm a programmer and Computer Science student seeking to make a career change from Music Instruction to Software Engineering. Three years ago, I caught the bug for programming, and after plenty of self-studying and building my own projects, I decided to return to school; I'm on schedule to graduate at the end of 2025.

I have three years of experience with C/C++, Python, and relational databases such as Postgres and sqlite. I acquired this experience by building a portfolio of side projects. The most significant is a small web application I wrote with Django, Python, and Postgres; it is currently in production being used by a coffee shop. The next significant project is a CLI app I wrote with C and sqlite to keep track of my students in my job as a music instructor. I called it Student Log. For the final example, I built a CLI app called Hasse Diagram Generator written in Rust, which takes in a partially-ordered set and models it with a Hasse Diagram. In designing this project, I translated the principles of Hasse diagrams and partially-ordered sets directly from my Discrete Math textbook into Rust code. I found the process of wrangling the abstract concepts in a math book and transforming them into code both challenging and rewarding.

My degree program takes up a fair bit of my schedule, but I still allocate time for side projects. For my latest project, I'm writing a simplified version of the RSA Encryption Algorithm in Python. I want to understand it as best as I can since it is so fundamental to the topic of encryption. As I gain more understanding, I plan to look closer at the threats that quantum computing poses toward encryption algorithms such as RSA. I also want to learn about the research being done in Post-Quantum Cryptography to mitigate such threats. In general, I'm interested in getting hands-on experience with quantum technology and being a small part of its development.

I have more to learn and I'm highly motivated to do it. I'm ready to take my skills to the next level as an Intern at D-Wave. Thank you for your time!

Sincerely,
Sean Reed