

Dear Hiring Team,

My professional and academic background is in physics which means my primary skills and interests are in finding, formulating, and solving difficult and consequential problems. I am passionate about learning new skills and applying these skills to real-world problems. My primary professional goal is to collaborate with and learn from talented scientists, programmers, and engineers by working on interesting and practical projects which have real-world applications. I believe this job will help me achieve this goal.

My current experience is primarily in building and validating coarse-grained models for macromolecules using a Langevin equation or the Ornstein-Zernike equation. This typically involves running one or many simulations of macromolecules and using statistics from simulation data to construct the model. Through this research, I have developed a strong interest in code development. For me, this has involved expanding the functionality of a pipeline for simulation data analysis to improve usability and adaptability for other similar projects.

I would also like to address the lack of programming experience in C# and C++ apparent on my resume. In my research on macromolecules, I have primarily used Python and Fortran. Therefore, I have experience with an object oriented programming language and a compiled programming language and the key features of each that make them uniquely useful. Additionally, I have some experience with programming Arduino microcontrollers, which are programmed using a language very similar to C++. Combined, I think these proficiencies make my lack of experience in this specific domain less significant.

For my professional and intellectual growth, I am searching for jobs that require software engineering, since I think this is a skillset with broad and numerous applications. Moreover, I am intensely interested in software development which has scientific applications, and I think this job is especially suited to my professional and personal interests.

Sincerely,  
Jeremy Welsh-Kavan