September 8, 2019

Dear Hiring Manager,

I am newly minted mathematics Ph.D. graduate looking to become a software engineer. My Ph.D. thesis is on Computational Number Theory where I developed and implemented algorithms for computing certain invariants of modular abelian varieties.

As a result of my graduate research work, I have developed strong technical skills. In particular, I made heavy use of Sagemath which is a Python mathematics library, similar to scipy, more suitable for research-level number theory computations. The results of my computations were then stored in PostgreSQL databases.

The best part about Sagemath is that it is open source. My involvement in Sagemath began with my successful Google Summer of Code 2016 project in improving the modular abelian varieties functionality of Sagemath. This work would become the foundation of the computation-aspects of my Ph.D. thesis. I am still an active developer for Sagemath having authored 25 tickets (19 accepted so far) and done code reviews for 10 tickets.

Though my undergraduate and graduate degrees are in mathematics, I have taken numerous computer science classes as an undergraduate. In addition to the usual data structures and algorithms classes, I have taken formal languages and automata, two cryptography classes, and a graduate level logic class.

I believe that the completion of my Ph.D. shows both my capacity to learn and the ability to undertake and complete long and difficult independent projects. In addition, I hope my Sagemath contributions shows both my passion and readiness for software engineering.

If you have any questions at all, feel free to contact me either at `626-310-2108` or `kevinywlui@gmail.com`.

- Kevin Lui