

Musa V. Ahmed | Cover Letter

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Dr. Jamie Foster

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Department of Microbiology and Cell Science

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Dr. Foster:

I am currently a graduate student at Florida International University pursuing a Master's Degree in Computer Science. I possess a strong background in computer networking simulation and modeling as well as high performance distributed computing. As part of my coursework, research, and thesis I must be in a constant state of problem solving. This includes but is not limited to software design, objected-oriented programming, imperative programming, data analysis, automation with scripting, software testing, reading and adapting novel ideas from major publications, and constant tinkering for optimizations or stress testing. I feel my experience makes me the ideal candidate for this position.

I have been programming and messing around with the computer since I was three. My father is a Computer Scientist by trade and he introduced me to computers at a young age. By the time I was ten years old I had already rejected Windows and preferred to use Linux on all of my computers.

When I came to college that side interest in Linux, experimentation, open source software, and programming turned into something palpable that I could use and apply in the real world. I excelled in all my classes and worked hard and was even accepted into the highly prestigious 4+1 accelerated Bachelors and Masters program.

Not far into my undergraduate career I was accepted to conduct undergraduate research. I firmly believe this is where my skills and knowledge of Linux and programming set me apart from the other students. The research was challenging and there were several topics of which I was completely uneducated about. However, I rose to the challenge and I found that I genuinely enjoyed it. After seeing my commitment and dedication to the work, my advisor agreed to take me on for Master's thesis, a rare event in my department. In over four years at the university I have only seen one other Master's student defend a thesis in Computer Science.

Recently, I have been working on Master's Thesis which consists of a hybrid approach to network simulation and emulation. Part of this project required extensive data collection on each computer to see what kind of data it is transmitting and how much, this can be thought of as network metadata. This data is then filtered, analyzed, and finally sent to a discrete-event simulator for processing. The entire data collection part was written in a combination of Python and Bash scripts (mainly for automation and some small speed optimizations).

I firmly believe I can be a serious asset to your project. The field of metagenomics is extremely interesting to me as there is a massive amount of data integration and analysis. The possibilities for statistical analysis and modeling are endless. Let me further describe my experience and skills

particular those relating to data analysis. Again, as part of my research I must taken