Siddharth **Reed**

Bioinformatics Summer Intern

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GRAIL
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Application for Bioinformatics Summer Intern

To whom it may concern,

Cancer is to vast and complex a beast to try and detect, let alone detect early and robustly, that you would certainly need equally vast and complex data to study it. Of course this is a lesson I had to learn several times over throughout my career, that things in biology are rarely simple. Shortly after I discovered bioinformatics as a field in my first year I spend what time and electives I had shoring up my quantitative skills, mostly independantly. I did take an excellent course on software design that introduced me to concepts like terminal commands, version control with git and some object oriented programming with python. I was also fortunate to have an advisor who preached to me the gospel of Linux to me. After finding out how powerful these tools could be I kept trying to improve myself, using them for everything.

Lairing to code and analyze data are interesting enough on their own, but biological data presents many unique challenges among analytical fields. The desire to try and discern meaningful, clear patterns from such messy subjects helped lead me to work studying cancers. I conducted an internship in Michael Hoffmanś lab at the University of Toronto under the supervision of Post-Doc and placenta expert Samantha Wilson. She conceptualized the project of comparing transcriptomic profiles of various cancers and the placenta, trying to find what the placenta was regulating "correctly" that cancers cells were not. I worked with the recount2 data and ended up reading a lot about how transcriptomic data is produced to ensure I knew what to expect and how to work with it. I also spent much of my time visualizing my results and presenting them to experts and non-experts where the placenta and cancers differ and what that could imply for future cancer research.

I know my educational background in genetics, experience charactrizing cancers and enthusiasm for intricate biological problems makes me especially suited for this internship.

Thank you for your time and consideration.
Sincerely,
Siddharth Reed
MSc. Student in Computational Biology
Carnegie Mellon University