

# Matthew Lee

American-Canadian studying CS @ WWU

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My passion is exploring a problem that I'm completely unprepared to deal with and gaining the necessary tools and expertise to solve it in an elegant and efficient way. If that means jumping straight into an unfamiliar framework or staying up until the early hours of the morning poring over a project, that just makes the final commit or build even more satisfying.

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## Education:

Currently at Western Washington University in Bellingham.

Graduation Date (expected): Fall 2020

GPA: 3.44

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## Skills:

### Languages:

Java, C, C++, CUDA, OpenCL

### Productivity and Tools:

Eclipse, Visual Studio, Maven, Linux, GDB, VM  
Virtualbox, Postman, AWS, JSON, Git

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## Areas of Interest

### Concepts:

Parallel programming, algorithm optimization, GPGPU, big data, system design, quantitative finance, portfolio theory

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## Notable Projects:

### Classfindr

Examined the legacy tool currently in use for my university's course searching feature and designed and wrote a multithreaded web scraper and upload application to obtain class data for the last 16 years by parsing query responses from the university database and uploading the results to a personal AWS DynamoDB database.

### Exploring Monte Carlo Simulations

Wrote functions to estimate various different values and functions using Monte Carlo simulations written to run on different hardware using Java, OpenCL, and CUDA. Experimenting with writing kernels run on the GPU proved most interesting about this project, as the use of the GPU often represented a significant performance improvement over comparable multithreaded implementations limited to the use of the CPU, and the architecture differences were enjoyable to try to leverage to further optimize runtimes.

### Financial API Utility - University Hackathon

Wrote a console-based application that allows the user to request data and retrieves it from the Alpha Vantage financial API and outputs it to the console. Learned how to parse JSON files using the org.json and Gson libraries over the course of the 24-hour competition and gained valuable collaborative development experience.