

# Joshua Dall'Acqua

MATHEMATICS AND COMPUTER SCIENCE

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## Summary

Currently enrolled at McGill university majoring in Mathematics and Computer Science. Looking for a 4-8 month position in any aspect of software development / computer science / data science to apply my knowledge of systems, algorithms, data structures and design patterns. GNU/Linux advocate and hobbyist. Very passionate about computer science, pure mathematics, and the application of maths within computing. Looking to gain experience as an intern in any aspect of software/computer science.

## Education

### High School Diploma

STRATHCONA COMPOSITE HIGH SCHOOL (COMPLETED)

- Honours with Distinction
- AP program

Edmonton, Alberta

Sept. 2017 - June. 2020

### B.S. in Mathematics and Computer Science (In Progress)

McGILL UNIVERSITY

- Current CGPA: 3.96

Montreal, Quebec

Sept 2020 - April. 2024

### Related Coursework

- Abstract algebra
- Mathematical Analysis
- Probability
- Software Systems
- Programming Languages and Paradigms (functional programming)
- Algorithms and Data Structures
- Computers and society

## Extracurricular Activity

### Side Projects

- Square wave fractal visualization in Python with Matplotlib, currently re-writing in Rust/OpenGL using Glium library
- Breadth first graph traversal as a proof for the countability of rational numbers
- Binary search algorithm as a proof for localization of roots
- React/Node website hosted on Raspberry Pi
- NAS storage using Raspberry Pi, WireGuard and Samba

### Blitz Coveo AI Competition

- Use knowledge in Artificial Intelligence to compete against other teams of Quebec university students.
- Completed technical qualifier November 2021, competing January 14-15 2022

## Technical Skills/Languages

### Productive:

- Python: Scientific libraries such as Numpy Matplotlib and SciPy
- Java: Strong object oriented programming and utilizing tools such as interfaces classes and abstract classes
- Bash: Scripting in the Unix environment as well as stream analysis using sed and awk
- Git: Utilizing version control to aid in the completion of both personal projects and school projects
- Unix: Optimizing workflow by being able to build an environment best suited to me

### Knowledgeable:

- C: Systems level programming, pointer arithmetic, file io, use of make files
- F# and OCaml: Working knowledge of ML based functional programming languages, function composition, recursion, immutability, monoids and monads
- Rust: Working knowledge of the borrowing and why it makes memory safe, see website for example project

### Learning:

- React: Built personal website using react as the front end library ([joshuadallacqua.com](http://joshuadallacqua.com))
- Node.js: Backend for personal website
- Javascript/Typescript: used exclusively with the react framework
- SQL: Briefly used to make a to-do app

## Work Experience

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### BlasBerry Orchard

Edmonton, Alberta

ORCHARD WORKER

July, 2020 - Sept. 2020, May, 2021 - Aug.

2021

- Find creative solutions to problems with limited resources
- Being trusted to work unsupervised for days at a time
- Carry out transactions with clients of the orchard
- Off site work such as product delivery and pickup
- Ensure the grounds stayed clean and professional
- Safe operation of heavy machinery

### DiscoverE Engineering Summer Camps

Edmonton, Alberta

SCIENCE CAMP VOLUNTEER

July, 2019 - Sept. 2019

- Get campers excited about STEM by sharing passion for the field
- Assist in setup and tear down of projects for the campers
- Keep track of campers while moving from one location to another
- Act as a third party in conflict resolution