

# Benjamin Chislett

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<https://github.com/benchislett>

## Profile

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Computer Science student with a thirst for knowledge and a passion for learning. Skilled programmer with experience in parallel computing, AI, full-stack development, research, and computer graphics.

**Key Skills:** JS/TS | C++ | Python | AWS | GPU Computing & HPC | Machine Learning | Agile

## Experience

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### Software Developer

*Sep 2018 - Jul 2019, May 2020 - Dec 2020*

*Mysa Smart Thermostats, St. John's, NL*

- Maintained and rewrote a full stack typescript application used to investigate user accounts distributed over an AWS backend
- Authored a suite of libraries for interacting with AWS at multiple tiers of abstraction
- Developed various new features for a react-native mobile application
- Architected a data pipeline used to create a data lake and perform analytics
- Led a small team of developers to create an IoT-based device simulator

### Research Intern

*Jul 2019 - Sep 2019*

*Okinawa Institute of Science and Technology, Okinawa Prefecture, Japan*

- Researched the Compressive Split-Step Fourier Method for efficiently solving the Gross-Pitaevskii equation
- Maintained GPUE: a CUDA/C++ application for simulating Bose-Einstein condensates
- Authored GPUE.jl: a JuliaLang-GPU implementation of GPUE

## Projects

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### GPU-Accelerated Ray Tracer

- Read over 100 papers on real-time ray tracing on the GPU
- Applied data-oriented design and GPU programming principles to develop an accelerated path tracer in CUDA with support for photorealistic materials and models

### Convolutional Autoencoders for Image Compression

- Researched machine-learning and computer vision techniques
- Developed a novel image compression algorithm using convolutional autoencoders and data compression, implemented in Tensorflow and PyTorch

### Chess Engine

- Developed and optimized a high-performance chess engine in C++

## Education

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### Honours Bachelor of Science, Computer Science

*Sep 2019 - Present*

*University of Toronto, Scarborough, ON*

- Cumulative GPA: 4.00