

Charlie Gagnon

chgagnon.github.io ◇ github.com/chgagnon ◇ (508) 654 5359 ◇ charles_gagnon@alumni.brown.edu

EDUCATION

Brown University

Sc.B. – Computer Science, *magna cum laude*

September 2018 - May 2022

Providence, RI

EXPERIENCE

MathWorks

Senior Associate Engineer

December 2024 - Present

- Member of the **MATLAB Foundation Architecture** team, responsible for core C++ libraries and components used throughout the MATLAB language implementation, such as crash logging, multiprocess synchronization, and the multiple dispatch system that governs optimized C++ variants for thousands of built-in MATLAB functions.

MathWorks

Senior Associate Engineer in EDG

July 2022 - December 2024

- Contributed to a range of products in the [code generation](#) area (**MATLAB Coder**, **HDL Coder**, **Simulink Design Verifier**, **Deep Learning Coder**), improving static analysis features and implementing new [MATLAB syntax extensions](#).
- Authored the first prototype of a customer-facing interface for integrating **Rust** code with Simulink models.
- Leading the **DTA Support** team, coached more than 50 team members to advance their technical knowledge and operational skills, optimized processes for knowledge sharing, and redesigned team performance metrics. Supported customers using [external language interfaces](#), [external hardware](#), and [server products](#), via phone and email.
- Leading the **SIT Plan** team, designed and implemented a CI/CD system for training course code and solutions, and authored internal training materials on server products used by hundreds of new hires around the world.
- Led **technical interviews** for more than 40 engineering applicants, evaluating work experience and programming skills.

MathWorks

Software Engineering Intern

May 2021 - September 2021

- In the **Cloud Platform** team, developed a log anomaly detection and remediation system for Kubernetes apps, coordinating Fluent Bit, Elasticsearch, and AWS Lambda to discard unhelpful log files.

National Park Service

Virtual Student Intern

September 2020 - May 2021

- Designed a machine learning and vision system to classify and count [colonial nesting birds in Biscayne National Park](#).
- Team of 3 selected as **Team Project of the Year, 2021**, from a pool of more than 3,000 interns.

Brown University

Teaching Assistant & Tutor

October 2019 - May 2022

- Within the **Computer Science Department**, guided students at weekly code and conceptual hours, responded to student questions on course forum pages, and revised assignments and solution code.
- As a **Sheridan Center** tutor, prepared and delivered weekly lessons for multiple groups of five students in introductory statistics, multivariable calculus, and physics.

SKILLS & SELECTED COURSEWORK

- Languages:** C++, C, Rust, Python, MATLAB, Verilog, Java, Scala, Lisp, OCaml
- Tools:** Git, Perforce, Kubernetes, Docker, NumPy, pandas, TensorFlow, Simulink, \LaTeX , Vim, Emacs, Unix/Linux
- Systems Courses:** Compilers, Programming Languages[†], Operating Systems^{*†}, Networks, Architecture
- Modeling Courses:** Machine Learning, Info. & Learning Theory^{*}, Comp. Statistics^{*}, Optimization^{*}, Vision, Graphics

ENGAGEMENT & AWARDS

^{*} graduate level, [†] teaching assistant

Brown University Band

Vice President

Nov. 2019 - Nov. 2020

- Set event schedule, prepared marching forms for [field and ice shows](#), and represented the Band to Brown Athletics.

National Merit Scholar

May 2018

MA Speech & Debate State Champion

April 2017