

# Charlie Gagnon

[chgagnon.github.io](https://chgagnon.github.io) ◇ [github.com/chgagnon](https://github.com/chgagnon) ◇ (508) 654-5359 ◇ [charles\\_gagnon@alumni.brown.edu](mailto: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 Simulink block for **integrating Rust code** with graphical programming models.
- DTA Operations Lead**: coached more than 50 engineers in written and verbal communication, product knowledge, and technical problem solving; optimized knowledge-sharing processes; and redesigned team performance metrics. Advised customers on [external languages](#), [external hardware](#), [app deployment](#), and [parallel computing](#), via phone and email.
- Product Training Team Lead**: 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 each year.
- 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

\* *graduate level*, † *teaching assistant*

- Languages**: C++, C, Rust, Python, MATLAB, Verilog, Java, Scala, Lisp, OCaml
- Tools**: Git, Perforce, Kubernetes, Docker, NumPy, pandas, TensorFlow, Simulink,  $\text{\LaTeX}$ , 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

### 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