Charlie Gagnon

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

EDUCATION

Brown University — September 2018 - May 2022
Sc.B. – Computer Science, *magna cum laude* — Providence, RI

EXPERIENCE

MathWorks — December 2024 - Present
Software Engineer 2

- 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 — July 2022 - December 2024
Senior Associate Engineer in EDG

- 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 — May 2021 - September 2021
Software Engineering Intern

- 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 — September 2020 - May 2021
Virtual Student Intern

- 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 — October 2019 - May 2022
Teaching Assistant & Tutor

- 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, 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 — Nov. 2019 - Nov. 2020
Vice President

- 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