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   May 2024 - Present
Senior Associate Engineer

· Working in the **MATLAB Coder Language** team, added code generation support for MATLAB's .? operator, enhanced code motion optimizations to improve compatibility with code profiling tools, and identified root causes for excessive memory use within code generation's definite assignment analysis.
· Leading the **DTA Support** team, coached team members to advance their technical knowledge and operational skills, optimized processes for knowledge sharing, and set priorities for team improvements.

MathWorks   July 2022 - May 2024
Associate Engineer

· Working in the **HDL Coder** team, implemented timing-slack calculations and multiple path analysis for pre-synthesis critical path estimation on hardware models designed in Simulink.
· Working in the **Deep Learning Coder** team, added IR constructs to represent tensor pooling operations, improving type safety and extensibility.
· As part of the **SIT Plan** team, authored and maintained internal training materials used by hundreds of new hires worldwide for learning about MathWorks server products and workflows.
· As part of the **DTA Support** team, provided direct support via email and phone to customers using external language interfaces, external hardware, and server products.

MathWorks   May 2021 - September 2021
Software Engineering Intern

· Working 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 computer 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

· C · C++ · Rust · Python · MATLAB · Verilog

· Compilers · Programming Languages

· Operating Systems · Networks · Architecture

· Machine Learning · Computer Vision · Graphics

· Complex Analysis · Abstract Algebra

· Modern Statistics (Information Theory, Learning Theory, Graphical Models)

ENGAGEMENT & AWARDS

· **Brown University Band**
  Vice President   Nov. 2019 - Nov. 2020
    · Set performance schedule and prepared marching forms for field and ice shows.
    · Acted as primary contact between Brown Athletics and the Band.
· **National Merit Scholar**   May 2018
· **MA Speech & Debate State Champion**
  Student Congress   April 2017