Charlie Gagnon

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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