

William Carter

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EDUCATION

Rensselaer Polytechnic Institute

Troy NY — 09/2020-05/2024

Bachelors of Science in Computer Science (AI and Data) and Economics Double Major

Buckingham Browne & Nichols School

Cambridge MA — 09/2016-05/2020

High School Diploma - Varsity Crew - Model UN - Robotics Club

WORK EXPERIENCE

BAE Systems - Software Engineer

Hudson NH — 11/2024-Present

- Engineered high-performance C++ systems and developed containerization infrastructure to support legacy code environments, improving development efficiency and system reliability for defense applications.
- Architected and implemented low-latency testing frameworks for hardware validation, enabling rapid verification of mission-critical components through automated testing procedures.

Microsoft Nuance - Software Engineering Intern

Burlington MA — 05/2023-07/2023

- Built a web-based deployment platform that allows engineering teams to provision custom AI/ML infrastructure, implemented using ReactJS, FastAPI, PostgreSQL, and Terraform.
- Spearheaded development of the Terraform Execution Engine, an internal Python library that dynamically generates and executes Terraform commands to deploy the client's desired infrastructure.
- Led a subgroup of interns to design and develop an intuitive user interface. Roadmapped and delegated tasks across the working group, while fostering a cohesive, collaborative environment.
- Worked with an international team across 3 different time zones using a follow-the-sun approach. Adopted Scrum methodologies for streamlined task allocation and sustained progress, culminating in a functional proof-of-concept.

Fidelity Investments

Data Engineering Intern

Smithfield RI — 06/2022-08/2022

- Designed API request and response system to streamline data intake from many different sources, effectively replacing custom API scripts with easily adjustable 'data filter' configuration files.
- Reduced codebase by 30% by streamlining the implementation process for new API data. This refactor turned potential multi-week tasks into quick adjustments in config files, minimizing the need for extensive QA testing.

Full Stack Software Engineering Intern

Merrimack NH — 06/2021-08/2021

- Built a Machine Learning and data processing pipeline in Apache Spark, which cleaned, reformatted, and analyzed client data in a fully automated fashion. This unlocked new potential in client prediction accuracy, preference management, and capital flow balance.
- Developed an improved web frontend for enterprise benefit clients using Angular, increasing data usability.
- Implemented a backend caching system for historical client data, resulting in a 90% speed increase for page loads.

Massachusetts Institute of Technology - Research Intern

Cambridge MA — 06/2018-08/2018

- Worked with MIT researchers to analyze motor-neural data for use in rehabilitative and autonomous prosthetics.
- Collected patient data using a robotic machine resistance system simulating a circular constraint, then used MATLAB to calculate and visualize tangential velocity and radial forces for use in new tests.

PROJECTS

Rattlesnake Ridge - Multi-AI Agent mystery game powered via LangChain. Uses React for a Retro-style frontend.

BrokerBot - Trading automation and backtesting software focused on the NYSE. Made using React, Python, & Alpaca API

Anemoui (WIP) - Cross-Architectural Knowledge Distillation, focused on Transformer to Retentive Network Distillation.

TECHNICAL SKILLS

Programming Languages: Zig, C, C++, Python, Typescript, Go, Rust, C#, Java

Tools & Frameworks: PyTorch, Pandas, Apache Spark, Docker, Terraform, ReactJS, TailwindCSS, AngularJS, Git, Unity, Blender, Photoshop, Figma, MATLAB, HTML5, CSS