Richard Daniel Ayebare

Cambridge, MA | ard256@mit.edu | 8579197185 | richardayebare.com

linkedin.com/in/richarddanielayebare | github.com/Ayebare-R

Education

Massachusetts Institute of Technology, BS in Computer Science and Economics Aug 2021 – Dec 2025

- **Coursework:** Computer Architecture, Compiler Design, Design and Analysis of Algorithms, Probability and Statistics, Econometrics, Machine Learning

Experience

Lead Software Engineer, DsideAI – Boston, MA June 2025 – Aug 2025

- Led a team of three engineers in building an AI assistant tool for investment professionals. The platform was created using React, Django, MongoDB, Docker and the Gemini 2.5 Pro API.
- Engineered the core logic that enables the engine take in a user fingerprint (e.g. age, risk tolerance, financial goal) and then create a personalized equity and fixed income portfolio in under 5 seconds.
- Demoed the product to clients at Bank of America and Kinny Munro Wealth Advisors. The clients were delighted with the product and the company received pilot program commitments from both firms.

Software Engineer Intern, PipeIt.Co – Boston, MA Jan 2025 – Mar 2025

- Developed two distinct AI-powered plugins for AutoDesk Revit using C# and the OpenAI API, automating complex design and support tasks for mechanical, electrical and plumbing engineers.
- The first tool generates plumbing design objects in Revit using natural language prompts. This reduces the time needed to create a plumbing schematic by 50%. The Open AI API is instructed to return Revit code which is then fed into the Revit API for execution.
- The second tool is a context-aware chatbot that provides instant technical support within Revit, I engineered effective prompts to ensure reliable and accurate AI responses.

Software InFocus Fellowship, Jane Street – New York, NY May 2023

- Engineered an automated trading bot in Python that achieved a top 5 finish (out of 20) in a competitive mock trading internship among the interns.
- Designed a market-making algorithm that identified and achieved a consistent profit margin $> 5\%$ by identifying real-time bond pricing inefficiencies.
- Implemented the Snake game in Ocaml, focusing on efficient state management, scalable rendering and networked features like a live scoreboard.

Projects

C++ Limit Order Book Simulator

- Built a C++ limit-order book simulator with limit/market order handling, cancellation, top-of-book queries, PnL tracking, and CSV logging for fills and snapshots.
- Implemented baseline market-making and Avellaneda-Stoikov strategies that dynamically adjust quotes based on inventory, risk aversion and market volatility.

Scheme Interpreter

- Engineered a Scheme interpreter in Python, implementing a tokenizer, recursive-descent parser, and a Read-Eval-Print Loop (REPL) with robust error handling.
- Designed a frame-based environment model with parent-pointer tree structure to manage lexical scoping, enabling the successful implementation of closures and higher-order functions.

Technologies

Languages: C, Java, Python, C#, SQL, JavaScript, Stata, C++

Technologies: .NET, Docker, React, Git, Django, REST API Design