AUGUSTIN MUYL

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Education

Boston University Boston, MA
Bachelor of Arts, Mathematics & Computer Science *May 2028*

- **Relevant Coursework:** Data Structures & Algorithms, Linear Algebra, Discrete Mathematics, Differential Equations, Multivariable & Single-Variable Calculus, Classical Mechanics & Thermodynamics, Electricity & Magnetism
- **Involvement:** CS Club (E-Board), Hack4Impact (Impact Team), BostonHacks, Quant Club (BUAlpha)

Skills

- **Programming Languages**: Java, Python (FastAPI, Flask), JavaScript (React/Next, Node), HTML/CSS, SQL, Bash
- **Technologies**: Snowflake, PostgreSQL, MongoDB, Dataiku, Motion (Framer Motion), Git, UNIX, Docker

Experience

Data Science Intern | *CMA CGM - Group Security & Intelligence* May 2025 — Aug 2025

- Engineered scalable ETL pipelines in Dataiku and Snowflake, optimizing SQL performance to cut processing time of 800M+ container logs from ∼20 hours to under 1 hour and enabling near-real-time analysis of high-risk containers.
- Developed full-stack features within an internal web application (React, FastAPI), building multiple frontend components and backend APIs used daily by 50+ analysts across 5 continents to streamline investigative workflows.
- Designed an algorithm using H3 spatial indexing to identify shippers' likely origin zones with 75%+ accuracy by filtering out hubs/ports and reconstructing average routes, enabling anomaly detection across global shipping patterns.

Software Engineer | *Iperuranium* Feb 2025 — Present

- Led frontend development with TypeScript, Next.js, and Tailwind CSS for core user-facing pages, aligning UI with Figma designs and building a mobile-first responsive layout to reduce interface friction and support load.
- Implemented interactive UI animations with Motion (Framer Motion) across multi-step sign-up flows to improve visual feedback, align with product design goals, and reduce user friction during high-dropoff moments.

Projects

MLP-NumPy | Jul 2025

- Implemented a Multilayer Perceptron from scratch in NumPy, deriving backpropagation equations for sigmoid activation and binary cross-entropy loss, and designing a modular architecture supporting variable hidden layers.
- Built a CLI with configurable training parameters (architecture, learning rate, early stopping) and visualization tools (loss curves, predictions, decision boundaries), enabling experimentation and deeper insight into model behavior.
- Achieved 98% accuracy on MNIST and 89% on Fashion-MNIST, extended to CIFAR-10 (∼48%), demonstrating strong benchmark performance and adaptability to increasing task complexity.

TwinLight | Apr 2025

- Developed a full-stack web application using Next.js, Express, and MongoDB that displays sunrise and sunset data for any location via an interactive React-Leaflet map with draggable markers and real-time solar API integration.
- Integrated the Gemini API to generate and display geographically distant locations with matching solar schedules, enabling users to discover unexpected global connections through solar symmetry.
- Implemented persistent query logging and playback through a history page, storing user-selected locations and interactions in MongoDB, with a responsive, animated UI built using Tailwind CSS and Framer Motion.

OutreachOutlet | Dec 2024

- Developed a Python/Flask web application to connect users with 500+ global volunteering opportunities, integrating a public REST API and storing structured data in a PostgreSQL database for category-based browsing.
- Selected for the First-Year Innovation Fellowship at Innovate@BU for the project's civic impact, receiving funding, mentorship, and institutional support to expand its reach.

Languages

- French (Native Proficiency), Spanish (Native Proficiency), English (Full Bilingual Proficiency)