

Emmanuel McGrail

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EDUCATION

University of Pittsburgh

B.S in Data Science, B.S in Computer Science, Minor in French

Relevant Coursework: Data Structures & Algorithms, Algorithm Implementation, Intro to Systems Software, Computer Organization & Assembly Language, Intro to Computer Vision, Intro to Deep Learning

Pittsburgh, PA

GPA: 3.76 | Spring 2027

École Nationale Supérieure de l'Électronique (ENSEA)

Engineering Study Abroad

Relevant Coursework: Operating Systems, Signals & Systems, AI & Big Data, Microprocessors, Advanced French

Cergy, France

Spring 2026

TECHNICAL SKILLS

Technical Languages: Python, C++, Java, R, C#, C, SQL (MySQL)

Communicative Languages: English, French

Libraries/Tools: PyTorch, Nvidia CUDA, Transformers, scikit-learn, Pandas, NumPy, Spring, Apache Kafka, Apache Spark, Snowflake, AWS Tools (Lambda, Step Functions, Athena, S3)

Awards/Honors: Dean's List, French Dedication Award, EU Economic Project Award, All-Academic Athlete

PROFESSIONAL EXPERIENCE

University of Pittsburgh Athletics

Data Engineering Intern

- Developed a proprietary data pipeline for the diving team using AWS Lambda, transforming raw web data into real-time performance analytics
- Enhanced recruitment workflows by integrating position-specific metrics into football pipelines and creating PowerBI dashboards for donors alongside business teams
- Engineered and deployed an LLM-powered TEXT2SQL tool, simplifying SQL query generation and democratizing data access for non-technical team members

Pittsburgh, PA

Sept. 2024 – Present

Bank of New York (BNY)

Engineering Intern

- Engineered a data reprocessing algorithm through Spring and Kafka to automatically resolve failed enrichment pipeline messages, increasing system reliability
- Migrated legacy data zones into a strategic architecture, improving cross-functional access for risk analysis teams
- Optimized reconciliation workflows, resulting in \$1.7M cost savings and an 8x reduction in processing time

Pittsburgh, PA

May 2025 – Aug. 2025

University of Pittsburgh

Undergraduate AI Researcher

- Co-developed conversational AI for smart home devices to enhance user immersion and information delivery
- Integrated Alexa API with custom LLM modules to improve response quality and studied AI impact across diverse age demographics
- Presented findings on LLM-driven information literacy to faculty and interdisciplinary academic peers

Pittsburgh, PA

Sept. 2024 – June 2025

PROJECTS

fastdist | C++, CUDA, PyBind11, Python

- Developed a high-performance mathematics library in C++ and CUDA to accelerate statistical computation and batching operations in Python
- Achieved ~2.5x computational speedup compared to standard libraries by optimizing GPU memory management and kernel execution

Dec. 2025 – Present

GenerativeTerrain | Java, Python, SpigotAPI

- Building a neural network tool that generates Minecraft terrain via CNNs to model complex procedural generation mechanics
- Created pipelines to extract chunk data, feed it to the model, and generate real-time topographical outputs inside active game worlds
- Preparing the dataset and pre-trained models for open-source release on Hugging Face

June 2025 – Present

PittAPI | Python, Requests, BeautifulSoup, UnitTests

- Contributing to an open-source university library that streamlines developer access to university data across departments and services

May 2024 – Present

- Implemented full study room reservation support to expand core utility and allow students to review bookings