

Malachi Rosario

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Education

Illinois Institute of Technology

08/2022 – Current

Bachelor of Science Computer Science

Expected Graduation 05/2026

Relevant Classwork: Data Structures and Algorithms | Operating Systems | Database Organization | Systems Programming | Data Mining | Probability and Statistics | Linear Algebra | Object-Oriented Programming I, II | Data Science | Discrete Structures | Graph Theory | Calculus 1, 2, and 3

Activities: Pi Kappa Phi | SHPE | ACM | Exelon Summer Institute | CRU

Experience

Software Engineer Intern

06/2025 – Current

BlackRock Atlanta, GA

- Built a full-stack mobile app using Python, FastAPI, and React Native so clients and internal users can view, monitor, and interact with Snowflake hosted financial data on mobile devices.
- Engineered a dynamic query and filtering caching system that flattened tables and filters, with real-time synchronization and support for any database schema.
- Created a stock lifecycle visualization tool to display historical trends and key metrics across investment stages.

Teaching Assistant (TA): CS 331 Data Structures and Algorithm

08/2024 – 12/2024

Illinois Institute of Technology Chicago, IL

- Taught data structures and algorithms in Python to improve time complexity and code optimization, including hash maps, stacks, queues, trees, graphs, and algorithms like binary search, divide-and-conquer, and greedy.

Full Stack Software Engineer Intern

05/2024 – 08/2024

Treevah Chicago, IL

- Team lead for the demo, which raised over \$5000 from investors such as Microsoft for start-ups.
- Spearheaded the functionality of an online file management system using JavaScript and no-code-based software to build a working prototype.
- Provided the database and infrastructure design for this tech startup for deployment in Microsoft Azure.

Teaching Assistant (TA): CS 116 Object-Oriented Programming II

01/2024 – 05/2024

Illinois Institute of Technology Chicago, IL

- Taught lessons on data structures, algorithms, recursions, object-oriented programming(OOP), and APIs in Java. Guided students, led labs, and offered office hours for Object-Oriented Programming II.

Skills

Languages: Python | Java | C | SQL | R | JavaScript | HTML | CSS | OCAML | Bash

Frameworks/Libraries: Pandas | NumPy | Streamlit | FastAPI | Scikit-Learn | TensorFlow | Matplotlib

Developer Tools: Git | GitHub | Azure | Snowflake | Airflow | Docker | Linux | Kafka | MySQL | Tableau | Jupyter

Projects

S&P 500 Stock ETL Pipeline and Dashboard

[View Project](#)

- Developed an end-to-end ETL pipeline using Python, Airflow, and Azure to collect and process stock data for S&P 500 companies in real-time. Containerized the system with Docker and built a Streamlit dashboard.
- Automated extraction from Yahoo Finance and transformed the data into structured formats, storing it in Azure Blob Storage and Azure SQL.
- Scheduled hourly price updates and monthly company refreshes with Airflow.

Real-Time Pitch Predictor Engine

- Built a real-time pitch prediction engine using Python, Kafka, and a trained machine learning XGBoost model.
- Streamed pitch data from MLB StatsAPI through Kafka with one-hot encoding and Joblib for inference.
- Created an interactive Streamlit dashboard to display live pitch predictions and navigate game sequences.

Intel Project-Data Analysis for Sustainability

- Developed SQL queries to analyze energy generation, demand, and renewable energy trends to help Intel's Sustainability Team select a data center location.
- Created Tableau visualizations showcasing net energy production, renewable energy by region, and energy source trends, providing key insights for sustainable decision-making.