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

Experience

Teaching Assistant (TA): CS 331 Data Structures and Algorithms 08/2024 – Current
Illinois Institute of Technology Chicago, IL

- Taught lessons on essential data structures, basic sorting and searching algorithms, and object-oriented design principles. Guided students, led labs, and offered office hours focused on data abstraction and the practical application of data structures.

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 | SQL | R | Java | JavaScript | C | HTML | CSS | OCAML | Bash
Frameworks And Libraries: Pandas | NumPy | MatplotLib | sqlalchemy | React | FastAPI | Node.js |
Developer Tools: Git | GitHub | Jupyter Notebook | Tableau | MySQL | Azure | Airflow | Docker | Linux | Figma |

Projects

ETL Data Pipeline for Stock Market

- Used Python, Airflow, and Azure to Develop an Extract, Transform, Load (ETL) pipeline to collect, process, and analyze stock market data, focusing on S&P 500 companies.
- The system retrieves financial data, processes it into a normalized structured format, and stores it in Azure Blob Storage and an SQL database for real-time updates and analysis by using JSON and CSV files.
- Used airflow to periodically update the prices and market cap of the stocks.

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.

Death penalty and murder rates

- Utilized data science libraries (Pandas, NumPy, and Matplotlib). Analyzed and visualized murder rates and death penalty data Applied random sampling and null hypothesis for meaningful insights.

Website Blocker Python Script

- Used Python to block websites by modifying the system's host file redirecting the website to the local loopback address. This script enables users to control the duration of a website being blocked, offering temporary and permanent blocking.

Activities

Pi Kappa Phi:
Risk Manager 08/2024 – Current

- Oversee safety protocols and risk assessments for fraternity events, ensuring compliance with university and national guidelines.