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 | Java | JavaScript | C | SQL | R | HTML | CSS | OCAML | Bash

**Frameworks And Libraries**: React | FastAPI | Node.js | Pandas | NumPy | Matplotlib | sqlalchemy

**Developer Tools**: Git | GitHub | MySQL | Azure | Airflow | Docker | Linux | Tableau | Jupyter Notebook | 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.

**Tinder Clone**

* Used React, FastAPI, and MySQL to build a full-stack Tinder clone web application for my database.
* Configured the FastAPI backend and created Pydantic SQL models for seamless database interaction.
* Connected the backend to a React Application by creating REST APIs.
* Used React to develop the user interface (UI) and website functionality including internet cookies.

**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.

**OCaml Compiler**

* A simple compiler for an ML-like functional language, implemented in OCaml. This project includes a lexer, parser, type checker, and interpreter, demonstrating key compiler construction techniques.

**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.