




# Efstathios Plakas

Underlined items are clickable URLs — Yonkers, New York

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 <https://github.com/bytesizedprogrammer/>

## EDUCATION

### Manhattanville University

Aug. 2023 – May 2027

*Bachelor of Science in Computer Science, Finance*

*Harrison, NY*

- GPA: 4.0/4.0
- Relevant Coursework: Web Application Development 2, Discrete Structures, Programming Languages, Data Structures and Algorithms, Web Application Development 1, Computer System Architecture and Programs, Computer Programming 2, Computer Programming 1
- Dean's List, Castle Scholar, Clark Scholar

## WORK EXPERIENCE

### Software Engineer | *React, Express/NodeJS, MySQL, Stripe API, Redis, JWT, Nodemailer* May 2024 – Present

*Homeric Imports*

*Yonkers, NY*

- Designed and implemented a full-stack e-commerce platform using React, ExpressJS, and MySQL, integrating Stripe API for secure payment processing and Redis for caching and session management.
- Leveraged Docker and Kubernetes for containerization and orchestration, optimizing the scalability and deployment of the application.
- Set up and maintained CI/CD pipelines to streamline development workflows, enabling automatic testing and deployment of new features.
- Developed secure authentication systems with JWT and bcrypt, ensuring protected user and admin access.
- Built and maintained RESTful APIs to handle product, promotion, and user data, ensuring smooth communication between front-end and back-end services.
- Designed and developed an admin dashboard displaying critical business metrics (e.g., sales, profitability), implementing role-based access controls for different user levels.
- Applied security best practices in API development, including input validation, rate limiting, and protection against vulnerabilities like SQL injection, XSS, and CSRF.
- Integrated Nodemailer for secure email notifications, ensuring timely communication with users regarding order confirmations and account updates.

### Software Engineer Intern | *ReactJS, Express/NodeJS, MySQL, Redis, OAuth, Nodemailer* May 2024 – Present

*Manhattanville University*

*Purchase, NY*

- Implemented OAuth authentication to enable users to securely log in using their school email account
- Designed and developed an anonymous posting system, leveraging user data obfuscation techniques to ensure privacy and protect user identities from exposure
- Built a comment and reply system with integrated like/dislike functionality, implementing input validation and secure data handling to mitigate risks of injection attacks and ensure a safe user interaction environment
- Utilized Material-UI (MUI) to design and implement responsive, modern user interfaces for enhanced user experience.

### Web Design Intern | *HTML, CSS, Strikingly.com*

May 2024 – November 2024

*Fuller Center NY*

*Remote, NY*

- Enhanced website design to improve user engagement and satisfaction, resulting in an 82% increase in weekly user visits
- Revamped website layout to improve visual appeal and usability using Strikingly.com, HTML, and CSS

## PERSONAL PROJECTS

### Raspberry Pi 5 Network Defender | *TSX, MUI, JWT, Django, Wireshark, nmap*

Jan 2025 – Present

- Spearheaded the development of a Raspberry Pi 5 Advanced Network Defense System as lead software engineer overseeing the development of an AI-powered, enterprise-level security solution.
- Architecting a full-stack security platform with FastAPI, Django, and Python, leveraging Wireshark and nmap for deep packet inspection and threat analysis. Designing a React.js + Material UI frontend for real-time monitoring and system control.
- Configured and secured a network infrastructure by deploying a managed switch and router, routing traffic through a Django server for packet logging, anomaly detection, and pentesting insights.
- Implemented various security solutions on the server end such as anti-DDOS, rate limiting, IP blocking, etc.
- Automated various processes such as scanning all packets that come through to the server and auto updating the server every hour on the OS (Linux)

### Groceries Site | *AWS, TSX, MUI, ORM*

Jan 2025

- Engineered a full-stack grocery management platform using AWS, TypeScript, and MUI, enabling seamless collaboration between users.
- Leveraged AWS Amplify's real-time data synchronization, enabling instant updates across users without manual WebSocket management.
- Designed and implemented a dynamic friendship system, allowing users to grant one-sided or mutual list modification permissions.
- Built and optimized CRUD APIs for efficient grocery categorization by store, enhancing user experience.
- Integrated real-time activity tracking, displaying who modified each item and when, ensuring full transparency.
- Deployed the site with AWS Amplify's automated CI/CD pipeline, ensuring seamless updates and scalability.
- Designed and deployed a fully responsive UI, optimizing usability across desktops and mobile devices.

### Machine Learning Victory Predictor | *AI/ML, Python, MySQL, ElectronJS, Flask, Websockets, JavaScript*

July 2024

- Created a python script that a user can run that automates entering match data automatically into the MySQL dataset with advanced customizable filtering options of their choosing to ensure only clean data enters the database
- Finishing a real-time match prediction system using historical and live data combined with a machine learning logistic regression algorithm while constantly updating throughout the match (It restarts automatically until it has an accuracy rate of at least 80%)
- Began development of a desktop app using ElectronJS to make a user friendly GUI

### Automatic DDL Archiver | *Python*

July 2024

- Developed a Python script automating the archival of DDL schemas, optimizing data management by archiving schemas upon Windows boot-up, ensuring efficient backup and storage operations.

### Instagram Reel Downloader | *Python*

Jan 2025

- Created an automation pipeline using BeautifulSoup to scrape and store URLs of user's saved Instagram reels, ensuring quick and efficient data extraction.
- Developed a Python script for batch downloading hundreds of Instagram reels in under 2 minutes, demonstrating efficient handling of media files.
- Utilized file management techniques to save URLs in text files and automate download processes, reducing manual intervention for bulk downloads.

### Youtube Downloader and Converter | *Python*

Jan 2025

- Built a Python-based automation tool to efficiently download and convert YouTube content to MP3 format, processing over 500 songs in under 3 minutes, demonstrating high throughput.
- Developed an automation feature to batch process hundreds of public YouTube playlist URLs, streamlining data extraction and conversion tasks with minimal latency.

### Cybersecurity Discord Bot | *JavaScript*

Feb 2024

- Developed a Discord bot for Manhattanville University's Cybersecurity and IT Club, serving 20 users, to educate and engage them in various cybersecurity concepts and learning resources in increased Cybersecurity knowledge among the users
- Implemented interactive question commands, including multiple-choice and open-ended questions, covering a wide range of cybersecurity and general technology topics
- Integrated the "RapidAPI" service to automatically fetch and display daily cybersecurity news from major sources such as CNBC, Wired, and ThreadPost, in a dedicated server channel
- Designed and deployed a keyword-based response system to enhance user interaction and facilitate targeted, real-time discussions within the server

## TECHNICAL SKILLS

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**Programming Languages:** Python, SQL, HTML, CSS, JavaScript, Java, PHP, C

**Developer Tools:** AWS Amplify, Machine Learning, CI/CD, APIs, MySQL Workbench, Linux, Windows, Git, NPM, VS Code, REST API, CRUD API, Microsoft Office (PPTX, Word)

**Libraries:** Pandas, NumPy, Matplotlib, React-Router-DOM, ChartJS, Styled Components, WebSocket

**Frameworks:** TypeScript, React, NodeJS/ExpressJS, Electron.js, Flask, Django