Ethan Montgomery Thomas

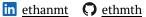in ethanmt ethmth

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Education

Columbia University   Sep. 2022 – Oct. 2024
B.S. in Computer Science   New York, NY
GPA: 4.157/4.0

• Coursework - Artificial Intelligence, Data Structures, Algorithms, Databases, Networks, Operating Systems, Security, Natural Language Processing
• Organizations - Application Development Initiative (ADI), Tau Beta Pi, Columbia Space Initiative (CSI)

Experience

Florida Atlantic University   Jun. 2023 – Aug. 2023
Engineering Research Intern   Boca Raton, FL

• Funded by NSF's Engineering Research Center for Smart Streetscapes (CS3).
• Analyzed scooter data to classify riding surfaces for safety and asset management.
• Collected data using a Raspberry Pi system with IMU, GPS, and speed sensors.
• Automated tasks using Systemd services, bash scripts, and Python IPC libraries.
• Trained PyTorch and scikit-learn models, achieving 90% classification accuracy.
• Won "Most Outstanding Presentation" award for project results.

Puberry Inc.   Feb. 2023 – Jun. 2023
Software Engineering Intern   New York, NY

• Developed interactive quizzes, games, and a progress-tracking calendar for a cross-platform puberty education app.
• Contributed to the Flutter front-end, implementing responsive design and seamless user interactions.
• Connected the app to Google Firebase for secure data storage and user authentication.
• Contributed to the demo sprint, enabling a successful pilot test with students and teachers.
• Helped Puberry improve health test scores by 61%.

Projects

DevFest Hackathon Website   Oct. 2022 – Mar. 2024
 2024.devfestcu.com

• Led a team of five engineers to develop Columbia University's DevFest 2024 website.
• Designed a Next.js and React site styled as a comic book with interactive "page turning."
• Created custom animations and layout to enhance user engagement and readability.
• Improved event registration by 100+ participants compared to 2023 through clear, accessible information design.

Front-End, Back-End, Full-Stack, Cloud, Web Programming, Leadership, Project Management, Next.js, React

Baseball "Pitch Wizard" Web Application   Mar. 2024 – May 2024
 pitchwizard.lol

• Developed a web app to teach users how to identify baseball pitches, like fastballs and curveballs.
• Created an interactive lesson and quiz using Python Flask for the back-end and Flask sessions for progress tracking.
• Styled the front-end with HTML/CSS, JavaScript, and jQuery, embedding video content for a richer learning experience.
• Packaged the app in a custom Docker image, simplifying deployment.
• Achieved user success rates of 85%+ in identifying pitch types after completing the lessons.

Python, Flask, jQuery, Docker, HTML, CSS, Javascript, Front-End, Back-End, Full-Stack, UI/UX Design

OpenAir-VPN   May 2023 – Present

• Designed a Linux command-line interface (CLI) to manage Wireguard and OpenVPN connections.
• Implemented an iptables-based killswitch, startup/shutdown integration with Systemd, and optional LAN access.
• Published the project as open-source under the MIT license, prioritizing ease of use and community contributions.

Linux, System Programming, Shell Scripting, Bash, Networking, Open-Source, CLI

Baseball Analytics Dashboard   Sep. 2021 – May 2022

• Built a React-based web interface for visualizing pitch data as part of Georgetown Baseball Analytics.
• Integrated with an R Plumber REST API to display pitch trajectories and strike zone grids.
• Enabled filtering by players, pitch types, and other parameters to support team strategy analysis.
• Provided coaches and players with an interactive tool to better understand pitching performance.

React, R, API, RESTful

Skills

Programming Languages - Python, C, C++, SQL, Javascript, Typescript, Java, OCaml.
Technical Skills - Git, Linux, Docker, Bash, LaTeX, HTML, CSS, Raspberry Pi, Virtual Machines, UX/UI Design.
Libraries & Frameworks - React, NextJS, Node, Flutter, PyTorch, Tensorflow, Selenium, Flask, Godot, PostgreSQL.
Soft Skills - Analytical Problem Solving, Communication, Prototyping, Creative Thinking, Teamwork, Leadership.