Zachary Rippas

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EDUCATION

B.S. in Computer Science, *Northeastern University*, Boston, MA   **Sept 2020 → Dec 2024**
- GPA: 3.8/4.0 | Dean's Scholarship | Dean's List
- Relevant coursework: Object-Oriented Design, Database Design, LLM-Integrated Systems, Artificial Intelligence, Algorithms and Data Structures, Systems Security, Networks and Distributed Systems

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TECHNICAL SKILLS

Languages · Python, C#, Java, Typescript, Javascript, SQL (MS-SQL, MySQL)
Frameworks & Tools · OpenAI Completions API, Spring, React, .NET, Flask, Git, Github, Docker

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WORK EXPERIENCE

Software Engineer Intern, *Wayfair*, Boston, MA   **July 2023 → Dec 2023** [6 months]
- Implemented a full-stack React/Java application allowing internal stakeholders to diagnose data pipeline issues by comparing product data across multiple sources and highlighting discrepancies
- Delivered several new end-to-end features and UI enhancements resulting in a **68%** increase in page visits
- Significantly improved the performance of a highly trafficked REST endpoint resulting in a decrease in latency from **10-12** seconds/request to **1-2** seconds/request on average
- Facilitated onboarding of new development team to ensure smooth ownership transfer of internal tool by conducting knowledge transfer sessions and code walkthroughs

Software Engineer Intern, *Tive Inc.,* Boston, MA   **June 2022 → Dec 2022** [7 months]
- Developed, tested, and documented **10+** REST API endpoints in ASP.NET framework that communicated with back-end services and MS-SQL databases to support the release of new public API
- Enhanced a full-stack C#/Angular app to support operations in the packaging of refurbished product
- Wrote unit and integration tests with Moq and Bogus to ensure correctness/compliance with product specs
- Communicated directly with project stakeholders to align on requirements, gather feedback, and move quickly through design iterations

Head Swim Coach, *Glen Wild Lake Association*, Bloomingdale, NJ   **July 2019 → Aug 2021** [3 years]
- Built and maintained datasets in Google Sheets using custom formulas to automatically calculate, update, and sort **75** swimmers' average and fastest times throughout the season
- Led daily practices, constructed meet lineups, gave small group lessons, and supervised assistants

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PROJECTS [source code available on github.com/zatchet]

University Opinion Miner | *Python, Gradio*   **Dec 2024**
- Built a multi-part RAG-based LLM system that determines and summarizes overall public opinion on specific university-related topics via sentiment analysis
- Utilized Llama 3.2 in conjunction with the Python Reddit API Wrapper (PRAW) to retrieve relevant content with **94%** accuracy as well as a custom fine-tuned BERT classifier to filter out unnecessary comments

AI Traffic Optimizer | *Python*   **Nov 2024**
- Designed a genetic algorithm and accompanying GUI to find the optimal placement and configuration of traffic control measures in simulated urban environments to minimize overall congestion
- Achieved a **59%** average reduction in travel time when compared to random intersection layouts
- Used techniques such as random restarts and a decaying mutation rate to avoid converging to local optima

PersistenTown | *Typescript, React*   **Apr 2024**
- Expanded an open-source online game by adding user profile functionality with persistent data storage
- Used Google Firebase services to manage authentication and authorization, and React.js to build a user interface that supports registration, sign in, password reset, user profile display and game history data