

Zachary Rippas

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EDUCATION

Bachelor of Science in Computer Science, *Northeastern University*, Boston, MA **Sept 2020 → Dec 2024**

- GPA: 3.8/4.0 | Dean's Scholarship | Dean's List
 - Relevant courses: Object-Oriented Design, LLM-Integrated Systems, Artificial Intelligence, Algorithms and Data Structures, Systems Security, Networks and Distributed Systems, Database Design, Theory of Computation
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TECHNICAL SKILLS

Languages · Java, C#, Python, Javascript, Typescript, SQL (MS-SQL, MySQL)

Libraries & Frameworks · Spring, React, .NET/ASP.NET Core, Flask

Systems & Tools · Git, Github, Docker, Kubernetes

WORK EXPERIENCE

Software Engineer Intern, *Wayfair*, Boston, MA **July 2023 → Dec 2023** [6 months]

- Upgraded, expanded upon, and re-engineered a full stack React.js/PHP/Java application allowing internal stakeholders to diagnose and resolve discrepancies/staleness in various data pipelines
- Delivered several new end-to-end features and UI enhancements resulting in a **68%** increase in tool usage
- 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
- Wrote client code that integrates with Aerospike, Elasticsearch, Apache Solr and other GraphQL services

Software Engineer Intern, *Tive Inc.*, Boston, MA **June 2022 → Dec 2022** [7 months]

- Developed, tested, maintained, 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 shipping 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 stakeholders to align on requirements and navigate through project ambiguity

Head Swim Coach, *Glen Wild Lake Association*, Bloomingdale, NJ **July 2019 → Aug 2021** [3 years]

- Coached a team of about **75** swimmers through three seasons in the North Jersey Small Lakes League
 - Built and maintained datasets in Google Sheets using custom formulas to automatically calculate, update, and sort swimmers' average and fastest times throughout the season
 - Led practices, constructed meet lineups, gave small group lessons, supervised assistants, and communicated with parents and other staff
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PROJECTS [github.com/zatchet: repositories can be made public upon request]

University Opinion Miner | *Python* **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

Traffic Butter | *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* **Apr 2024**

- Expanded upon 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