

Quinn Patwardhan

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Education

Sidwell Friends School (High School)
Occidental College (Major: Computer Science)

Expected Graduation: June 2024
August 2024-June 2028

Experience

Georgetown University Department of Computer Science InfoSense Artificial Intelligence Research Lab

Research Intern

May 2023 - February 2024

- Worked alongside PhD students to research and develop around Offline/Online Reinforcement Learning, Machine Learning, Information Retrieval, and Large Language Models
- Studied various methods in building Offline Chatbots and Model-Free Agents
- Replicated Python-Based Reinforcement Learning Models using CUDA/PyTorch on GPU
- Attempted the National Institute of Standards and Technology's TREC iKAT Challenge using Python, Cuda, Transformers, Git, Multi-architecture Language Models, and Retrieval Methods
- Wrote paper and attended/presented at the international college-and-industry level Text Retrieval Conference at the NIST
- Placed 2nd overall in 6 scoring categories, among 20+ submissions from eight institutions around the world

Projects

MarcMap (marcmap.app - [App Store Link](#))

December 2022 - Present

- Created a interactive web app that users to track the live location of MARC (Maryland Area Rail Commuter) Trains using data from the MTA (Maryland Transit Authority)
- Uses React.JS, JSX, HTML, and CSS for frontend, and an Express.js Based Backend API to format GTFS-RS Data
- Developed, Published, and Maintained IOS App Version using Swift 5/SwiftUI and XCode that received thousands (10,000+) of downloads and 100+ daily users

AmTrack ([App Store Link](#))

May 2023 - Present

- Built an IOS/Android Amtrak Train Tracking App in React Native with an Express.js backend
- Deployed App to Apple App Store and Google Play Store in compliance with store guidelines
- Handled dozens of daily users and thousands of total downloads (20,000+), self-hosted with Docker and Ubuntu

CS Club Website ([link](#))

September 2022 - Present

- Built a fully custom website from the ground up with Authentication (Google and Password) and User Management, using React.JS, HTML, Javascript, MySQL, Node, Express.js and CSS (csclub.social)
- Encouraged member participation with blogging system, automatic project web deployment, and contact system

ngxay ([link](#))

January 2024 - Present

- Rust package with 10,000+ downloads for combing through NGINX logs at the speed of light (2million lines/sec)
- Used Dynamic Programming, Hashmaps, Threading/Parallelization, and Ownership, and more optimizations

Publications

Quinn Patwardhan and Grace Hui Yang. "Sequencing Matters: A Generate-Retrieve-Generate Model for Building Conversational Agents". In: *The Thirty-Second Text REtrieval Conference (TREC 2023)*. 2023.

<http://arxiv.org/abs/2311.09513>

Technology Skills

ReactJS, Typescript, CSS, HTML, Git, HTTP, Node, Python, Java, NGINX, Linux, Ubuntu Server, MySQL, C Sharp, Swift/SwiftUI, PyTorch, React Native, Cuda, Mapbox GL JS API, Google Authentication, RESTful APIs, Docker, LaTeX, Language Models (Chat, BERT, T5), Rust

Adobe Illustrator, Adobe Photoshop, Adobe Lightroom, Adobe Indesign, Adobe Lightroom, Adobe Premiere Pro, Figma

Google Sheets/Microsoft Excel, Visual Studio Code, XCode, Neovim, Overleaf