Matthew C. Voynovich

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EDUCATION

RENSSELAER POLYTECHNIC INSTITUTE   **Troy, NY**

Dual Major B.S. in Computer Science and B.S. Information Technology & Web Science   Aug 2023 - Expected May 2026

Concentration in AI, Machine Learning, and Data Science

> **Cumulative GPA:** 3.96/4.0; Dean's List 2023-2024; Accelerated to Graduate in 3 years
>
> **Relevant Coursework:** Data Structures, Algorithms, Foundations of Computer Science, Discrete Mathematics, Intro to Logic Based AI, Computer Organization, Web Science Development, Computational Vision, Intro to AI, Math Foundations of Machine Learning, Machine Learning from Data, Managing IT Resources, Data Science, Data Analytics

Technical Skills: Advanced in SQL, PHP, JavaScript, Java, HTML/CSS, React, Vue, Node.js, Express.js, MongoDB, Python, C, C++ (Data Structures Implementation), Machine Learning Techniques (Convolutional Neural Networks, PyTorch, etc)

Awards and Leadership: 3x Dean's Honor List; Head of Events/Coach for Rensselaer Running Club, UPE Honor Society

ROSLYN HIGH SCHOOL   **Roslyn Heights, NY**

Weighted GPA: 103.5; 12 AP Classes   Sep 2019 - June 2023

National Honor Society, Science National Honor Society, Cross Country and Track Captain;

WORK EXPERIENCE

Full Stack Developer   **RPI, NY**

Contract Work for Novella Prep   June 2025 – August 2025

- Developed Zeewa, an EdTech platform for test prep that delivers diagnostic exams, generates unlimited AI-powered practice questions, and enables interactive lessons and assignments.
- Built a scalable full-stack system with Vue.js (Vite, Vuetify, Pinia), Node.js (Express), TypeScript, and PostgreSQL (Supabase RLS for secure multi-tenant access); integrated OpenAI LLMs for dynamic content generation
- Deployed Backend via Docker + Nginx reverse proxy on DigitalOcean VM, with Render for frontend hosting, SSL/TLS certificates, and domain/DNS management through Porkbun.
- Engineered advanced features including real-time LaTeX/Markdown rendering, stateful auth & notifications, and server-sent event (SSE) pipelines for tracking long-running AI-driven job requests.

INVESTIGATIONS OF QUANTUM PHASE ESTIMATION   **RPI, NY**

Undergraduate Researcher, RPI   Jan 2025 – Present

- Researching applications of Quantum Phase Estimation (QPE) in Quantum Signal Processing. Exploring the mathematical foundations of quantum Fourier transforms, eigenvalue estimation, and phase estimation techniques to enhance signal processing.
- Designing, implementing, and optimizing quantum circuits using Qiskit, leveraging IBM's quantum computing framework to simulate and test QPE-based algorithms and testing said quantum programs on the RPI Quantum Computer.

PROJECTS

HOMEFUL   **RPI, NY**

Developer   Nov 2024 – Dec 2024

- Developed a web application designed to help students compare off-campus housing options around RPI while also evaluating on-campus alternatives. Using Node.js, Express.js, Vue.js, MongoDB, and our own RESTFUL API, the platform provides an intuitive interface for browsing, filtering, and analyzing housing based on factors like price, location, amenities, and leases.

AUTOMATED REASONING LIGHTUP (AKARI) SOLVER   **RPI, NY**

Developer   Nov 2024 – Dec 2024

- Solved the popular logic puzzle, Akari, using Z3, a SMT solver, applying automated reasoning techniques to efficiently solve puzzle configurations. Implemented constraint-based algorithms to validate board states against game rules and generate solutions dynamically. Utilized automated reasoning techniques to efficiently solve board states, ensuring logical accuracy.

FRESH N' CLEAN   **RPI, NY**

Developer and Project Lead   Aug 2024 – Dec 2024

- Co-developed Fresh n' Clean, an on-demand laundry service platform connecting users with laundromats and independent contractors, similar to Uber. Utilized JavaScript, PHP, and Google Maps API to create an interactive and effective web application. Collaborated in a team using a modified Agile Scrum framework, utilizing tools on GitHub like projects and issues.

ACTIVITIES

RENSSELAER RUNNING CLUB   **RPI, NY**

Head of Events/Coach   Aug 2023 – Present

- Coordinate race and meeting schedules for the running club, ensuring effective event planning and smooth operations.
- Maintain a disciplined daily training regimen to prepare for competitive races, while also coaching club members to help them improve their personal fitness and performance.