

RIO BLUMENTHAL

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EDUCATION

Worcester Polytechnic Institute

Aug. 2023 – May 2027

Master of Computer Science, Bachelor of Science in Computer Science

Worcester, MA

Relevant Completed Coursework: Graduate Algorithm Design and Analysis, Graduate Artificial Intelligence, Graduate Machine Learning, Object Oriented Design, Systems Programming, Database Systems, Advanced Database Systems, Software Engineering, Introduction to Program Design, Discrete Mathematics, Algorithms, Advanced Linear Algebra, Introduction to Electrical and Computer Engineering, Computer Graphics

EXPERIENCE

Software Engineering Intern

May 2025 – August 2025

Stealth Power

Austin, TX

- Updated entire dashboard infrastructure to modern best practices, migrating from create-react-app to Next.js
- Created dashboards to view and analyze 100,000+ systems
- Integrated AI to allow users to ask queries in plain english, with custom React cards for visualization
- Detected and patched three critical security vulnerabilities, and updated authentication to prevent future issues

Algorithm Design and Analysis Teaching Assistant

Aug. 2025 – Present

Worcester Polytechnic Institute

Worcester, MA

- Worked with professor to facilitate student engagement and learning
- Created challenging homeworks and quizzes for PhD level graduate Algorithms course

Artificial Intelligence Researcher

June 2024 – Aug. 2024

Worcester Polytechnic Institute

Worcester, MA

- Collaborated with a team of grad students to create an AI chatbot for tutoring students in AP U.S. History.
- Used CLASS framework to provide feedback in a constructive manner, which was evaluated as 97% accurate
- Created a RAG for knowledge base on top of pretrained Llama2, which together outperformed ChatGPT on test data
- Gained experience in AI, research, algorithms, and large-scale collaborative projects

PROJECTS

Researchella | Python, JS, Flask, Oracle, Bootstrap, React, Docker, AWS

Feb. 2025 – March 2025

- Collaborated with a group of undergraduates to create a full-stack web application
- Implemented Auth0 authentication, and hosted on AWS
- Allowed undergraduate students to easily apply for research positions posted by faculty

PostSmiles | Python, Flask, Oracle, Bootstrap

Jan. 2025 – Feb. 2025

- Developed a simple social media web application to allow users to post things that made them smile
- Uses JS, HTML, and CSS for the frontend with a Flask Python backend and Bootstrap for styling

Logisim Microprocessor

Jan. 2023 – May. 2023

- Designed, simulated, and programmed a pipelined microprocessor
- Used Logisim to create from transistor level, and custom Python script to convert readable Assembly to circuit-level code

Snake AI

Jan. 2025 – May. 2025

- Collaborated with other grad students to train and evaluate a Snake machine learning model
- Aggregated data from 20+ skilled players into a database to train a convolutional neural network, and compared its performance to a reinforcement learning model we created
- Final model consistently outperformed human players

Message Sentiment Analysis

Aug. 2023 – Dec. 2023

- Wrote programs to analyze large CSV message datasets (300,000+ messages) using Pandas and Numpy
- Delivered insights such as messages over time, word clouds, sentiment analysis, and topic trends

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, Typescript, HTML/CSS, MATLAB, Assembly, SQL, React, R

Frameworks: React, Node.js, Flask, JUnit, Next.js, Express.js

Developer Tools: GitHub, LaTeX, KiCad, Oracle, VS Code, IntelliJ, Cursor, WebStorm

Libraries: Pandas, NumPy, Matplotlib, PyTorch, SciKit-learn, TensorFlow, OpenCV