MATTHEW KISZLA

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COMPUTER SCIENCE UNDERGRADUATE

Worcester Polytechnic Institute (WPI) Undergraduate majoring in Computer Science with strong mathematical and analytical background. Excels in project-oriented curriculum and enthusiastic about new programming challenges. Strong written and oral communicator, collaborative team member, and problem-solver who is diligent, values integrity, and strong work ethic.

EDUCATION

Worcester Polytechnic Institute (WPI) Worcester, MA
Bachelor of Science in Computer Science, Minor in Data Science GPA: 3.74 May 2024

SKILLS

Computer Languages:	C, C++, JavaScript, Java, Python, HTML, SQL, CSS, Go, Tableau, D3.
Software:	CAD (Computer Aided Design), Microsoft Office Tools, React, AWS Cloud9 / Lambda / S3 / API Gateway / RDS, MySQL, SQLite, TensorFlow, PyTorch, LangChain, OpenAI API.
Related Courses:	Data Visualization, Software Engineering, Computer Graphics, Artificial Intelligence, Object-Oriented Design, Computer Networks, Operating Systems, Algorithms, Business Data Management, Machine Learning, Distributed Systems, Data Science.
General:	Excellent communication, organizational, presentation and project team leadership skills. Time management, logic, and analytical skills. Able to work independently or as part of team.

INTERN / PROJECT EXPERIENCE

Data Visualization Project Spring2024

- Used data from the American Time Use Survey (ATUS) and developed a diverse and interactive visual using HTML/D3/JavaScript
- Users could perform multi-dimensional queries about ATUS using my visual and draw various different conclusions.

Major Qualifying Project (MQP) WPI chatbot– Python Fall & Spring 2023/2024
To provide an AI-based tool for WPI Students to find information and learn about the school.

- Created database using Pinecone of embeddings of WPI webpages and resources using Word2Vec and LangChain.
- Embedded user questions to find relevant WPI webpages and resources using cosine similarity.
- Fine-tuned embedding model.
- Used the relevant WPI webpages and resources as context to the user question and then used OpenAI API tools to generate a response to the user question.
- Created UI and backend to facilitate user questions.

Artificial Intelligence– Python, JavaScript, HTML Fall 2023

- Trained a deep neural network to predict the outcomes of NBA games
- Implemented a UI for users to be able to interact with predictions

Machine Learning – Python Spring 2023
Programmed using Python to complete machine learning projects involving SoftMax Regression, SGD (Stochastic Gradient Decent, SVM (Support Vector Machine), and Neural Networks.

- Exercised classification skills through identifying articles of clothing and identifying if a face was smiling.
- Solved Regression problems, for example, estimating someone's age.
- Created neural network using TensorFlow.

Massachusetts Department of Environmental Protection, Boston MA Spring & Fall 2022
Interactive Qualifying Project (IQP) with MassDEP, Project Leader, Intern
Assessing sewage pollution notifications in Massachusetts.

- Met with leadership at MassDEP to capture requirements for the project and develop project schedule.
- Researched and surveyed Boards of Health and Health Departments understanding of new regulations.
- Researched and surveyed Watershed, Community, and Environmental Organizations about their community outreach for notifications of sewer overflows.
- Analyzed MassDEP sewer overflow database to support findings.

Software Engineering – JavaScript, HTML, SQL
Fall 2022

- Developed puzzle game using React by applying object-oriented analysis, use cases and storyboards
- Developed a Website like Kickstarter using AWS service for Cloud9 / Lambda / S3 /API Gateway / RDS for the back end and a React application using JavaScript and HTML for the front end.

Computer Graphics Project – JavaScript, HTML June 2022

- Coded and tested a complex scene by loading from two simple file formats—OBJ models accompanied by MTL material files.
- Applied lighting and texture to scene
- Used a matrix stack to structure scene through hierarchical transformations that implemented simple shadows, reflections, and refractions.

Operating Systems Project – C Spring 2022

- Learned programing techniques in processing, threading, memory management, concurrency, and file systems.

Computer Network Project – C Fall 2021

- Coded and tested overlay network for routers and end host using IP and UDP headers and UDP sockets.
- Allowed for file sharing through the routers and end hosts.

Work Experience

BAYS and Town of Hopkinton, Soccer Referee 2016-2019

- Officiated at sporting events, games, or competitions to maintain standards of play and verify observed game rules.

My Brother's Keeper, Easton, MA, Summer Intern Volunteer Summer 2019

- Facilitated delivery of food and furniture to in-need families in the Brockton, MA area.

Activities

WPI Computer Club Fall 2022

- Worked with peers and professor on exercises for improving coding skills.

WPI Intramural Flag Football Fall 2021 & 2022
WPI Club Soccer 2020