

Daniel Sardak

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EDUCATION

PhD in Data Science , Worcester Polytechnic Institute	Aug 2025 - May 2030
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MS in Artificial Intelligence , Worcester Polytechnic Institute	May 2025
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BS in Computer Science , Worcester Polytechnic Institute	Dec 2024
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RESEARCH AND PUBLICATIONS

Contested logistics: Resilience of strategic highways and railways <i>GIS, Network Science</i>	July 2025
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- **Publication:** Transportation Research Interdisciplinary Perspectives
- **Authors:** Sukhwan Chung, **Daniel Sardak**, Maksim Kitsak, Andrew Jin, Igor Linkov

Assessing the Robustness and Resilience of U.S. Strategic Highways: A Network Science Perspective <i>Resilience, N</i>	
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- **Publication:** Transportation Research Record
- **Authors:** Sukhwan Chung, **Daniel Sardak**, Jeffrey Cegan, Igor Linkov

EXPERIENCE

Teaching Assistant WPI Computer Science Department	Aug 2025 - Present
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- Led office hours to assist students with homework questions and concepts for WPI's Information Retrieval course
- Created grading rubrics and homework solutions for the course
- Designed and led a lecture on basic machine learning and deep learning using PyTorch

Student Contractor US Army Corps of Engineers	July 2024 - Present
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- Developed a dataset to assess the compounded effects of natural disasters and Contributed to the creation of a predictive model analyzing how wildfires influence flood intensity.
- Applied network science methods to assess and quantify the resilience of road and rail infrastructures.
- Simulated wildfire scenarios to evaluate their impact on road network resilience
- Developed a simulation and analysis framework to compare multiple disaster recovery strategies
- Resulted in a paper **Assessing the Robustness and Resilience of U.S. Strategic Highways: A Network Science Perspective** published in the Transportation Research Record

Peer Learning Assistant WPI Math Department	March 2022 - Aug 2025
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- Assisted students with understanding mathematical concepts and solving problems
- Led weekly discussion sessions for Statistics, Calculus, and Linear Algebra courses for 30+ students
- Provided one-on-one tutoring sessions to students in need
- Graded homework and exams, and provided timely feedback on student's understanding of the material

PROJECTS

RAG Powered Immigration Form Filler RAG, LLM, Haystack	Jan 2025 - May 2025
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- Developed a RAG powered immigration form filler powered by Mistral to fill out immigration forms
- Used Haystack to develop an end-to-end RAG pipeline
- Featured a chatbot interface to upload documents and collect user information

Reinforcement Learning for Ms Pacman Python, Reinforcement Learning	Aug - Dec 2024
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- Implemented a Rainbow DQN agent to play Ms Pacman
- Used various reward shaping techniques to improve the agent's performance
- Trained PPO and A2C agents achieving scores of 2,200+

LLM Powered DBMS Assistant LLM, SQL, Python	Aug - Dec 2023
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- Developed an LLM powered DBMS assistant that uses GPT-3.5-turbo to answer questions about a database
- Created a pipeline to convert a schema and user query into a SQL query
- Developed a chatbot interface to interact with the DBMS assistant

Deep Learning EKG Anomaly Detection Python, Deep Learning, EKG	Aug - Dec 2024
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- Developed a deep learning model to detect anomalies in EKG signals
- Implemented RNNs and LSTMs to classify EKG signals as normal or abnormal
- Developed an algorithm to correct anomalies

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, jQuery, CSS3, HTML5, R

Applications: Tableau, Data Analysis, Machine Learning, Data Visualization, Data Mining, Data Engineering, Web Development

Database/Warehousing: MySQL, Google Cloud, PostgreSQL, Azure