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Summary

PhD student in Civil & Environmental Engineering at the University of Vermont, specializing in Life Cycle Assessment and Artificial Intelligence. Brings 5+ years of experience as a Data Scientist at NASA, with expertise in data analytics, machine learning, and geospatial technologies, including contributions to the Perseverance rover mission and DARPA projects. Skilled in applying large language models and advanced AI methods to environmental and engineering challenges.

Education

University of Vermont (Burlington, VT, USA): PhD, Civil and Environmental Engineering, 2025-Present
George Washington University (Washington DC, USA): Master of Science, Computer Science, 2018-2020
Trinity College (Hartford, CT, USA): Bachelor of Science, Computer Science; Bachelor of Arts, Film Studies, 2014-2018
Chelsea Academy Sixth Form (London, UK): A-Levels, 2012-2014

Experience

Research Assistant at University of Vermont, *September 2025 – Present*
• Research focus: intersection of Life Cycle Assessment and Artificial Intelligence.

Graduate Teaching Assistant at University of Vermont, *September 2025 – Present*
• Assisting in teaching Hydraulics (undergraduate-level), helping with running labs, grading, and mentoring students.

Data Scientist at NASA Jet Propulsion Laboratory, a government space agency, *June 2020 – July 2025*
• Conducted data analytics, visualization, and web scraping for governmental projects, driving data-driven decision-making.
• Established and managed a GIS Innovation Hub in partnership with ESRI, enabling scientists to analyze and visualize geographic data effectively.
• Integrated ChatGPT using Azure cloud for project analysis and executive decision-making.
• Led a research paper clustering and summarization project using machine learning, culminating in developing an interactive, user-friendly dashboard.
• Built an advanced metadata parser using Grobid, automating metadata extraction from research papers.
• Principal Investigator for a citizen science proposal, successfully advancing to the final stage of funding, showcasing leadership and innovation in engaging community-driven research initiatives.

Data Science Intern at NASA Jet Propulsion Laboratory, a government space agency, *May 2019 – May 2020*
• Contributed to improving Mars rock drilling and built a dashboard for optimal point selection.
• Conducted research in computer vision for creating connected graphs from scientific diagrams.
• Scraped PDF documents for metadata analytics in DARPA SafeDocs project.
• Analyzed COVID-19 scientific papers using NLP techniques to identify trends.

Data Science Intern at NASA Jet Propulsion Laboratory, a government space agency, *May – August 2018*
• Assisted in implementing table detection in PDF documents and created a synthetic training dataset.
• Evaluated hierarchical classification methods.

Data Science Intern at NASA Jet Propulsion Laboratory, a government space agency, *May – August 2017*
• Developed and analyzed Sentiment Analysis Parser, resulting in a published paper.
• Conducted analysis of human trafficking data and technical standards classification.

Google Summer of Code Participant at Apache Software Foundation, an open-source organization, *May – August 2016*
• Developed a Sentiment Analysis Parser and conducted big data analysis with D3 visualizations.

Computer Science Teaching Assistant at Trinity College and George Washington University, *September 2015 – May 2020*
• Assisted in teaching undergraduate CS courses; led lab sessions, held office hours, and graded assignments.
• Supported students in developing coding skills and understanding core computer science concepts.

Technical Skills

Languages: Python, Java, JavaScript/TypeScript, R, SQL
Frameworks/Libraries: Azure OpenAI, AWS, Pandas, Numpy, Spacy, NLTK, Haystack, LangChain, BeautifulSoup, Scrapy, Plotly Dash, Seaborn, Matplotlib, D3, Leaflet, Scikit Learn, Keras, TensorFlow, Hugging Face, Streamlit, ElasticSearch
Others: Linux, Machine Learning, Large Language Models (LLM), Docker, ArcGIS Pro, ETL pipelines

Publications

- "Progress on Building a File Observatory for Secure Parser Development." 2022
- "Building a File Observatory for Secure Parser Development." 2021
- "Building a wide reach corpus for secure parser development." 2020
- "Ensemble sentiment analysis to identify human trafficking in web data." 2018