

Patrick Steffanic, Ph.D.

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Python – 6 years

Scikit-learn – 5 years

Predictive Modelling – 3 years

C++ – 5 years

Docker – 3 years

Data Viz/Communication – 6 years

SQL – 2 years

PyTorch – 3 years

Model Deployment – 2 years

Google Cloud Platform – 3 years

REST APIs – 3 years

Reporting and Writing – 6 years

Git - 8 years

LLM Fine-Tuning & RAG – 1 year

Apache Distributed Computing – 1 year

Projects

LLM Auto-Responder for r/explainlikeimfive 2024

<https://www.linkedin.com/pulse/unlocking-power-large-language-models-eli5-llm-agent-patrick-s7ghe/>

- Implemented LLM agent to generate high-quality, well-aligned responses to posts on r/explainlikeimfive
- Implemented data pipeline to ingest posts, generate responses with RAG on Wikipedia and comment.
- Served open-source LLMs on AWS, GCP, Azure and locally with GPU acceleration.

The Risk of Recurring Wildfires 2024

<https://www.linkedin.com/pulse/growing-risk-recurring-wildfires-patrick-steffanic-feije/>

- Collected data from USGS website on wildfires and cleaned it using Python and SQL.
- Explored and visualized data, modelling wildfire growth for several categories of fire.
- Estimated adjusted insurance premiums in wildfire prone areas to report in article.

Experience

University of Tennessee – Graduate Research Assistant

June 2018 – Present, Knoxville, TN

- Ideated and executed on novel measurement of particle production at the Large Hadron Collider.
- Reduced model uncertainty in particle identification by up to 90% using advanced statistical modelling.
- Led machine learning initiatives resulting in 3 peer-reviewed publications and improved research methodologies.
- Effectively communicated complex data through visualizations at conferences and within my team.

ALICE – Detector Operations Manager

August 2022, Geneva, Switzerland

- Managed a team of 12 to maintain 85% data-taking efficiency, ensuring high-quality data collection.
- Presented detailed operational status reports and insights to stakeholders.
- Developed and implemented training materials and instructions for crew members daily.

Mentor eData – Data Scientist

January 2014 – January 2015, San Luis Obispo, CA

- Improved path estimation from GPS measurements.
- Participated in code review and followed CI/CD and testing guidelines.
- Collaborated with a cross-functional team through whiteboard discussion and pair programming.

Education

University of Tennessee, Knoxville, TN — *Physics Ph.D.*

June 2018 - May 2024 *Tennessee Graduate Research Excellence Fellowship Recipient*

Cal Poly, SLO, CA — *Physics B.S. + Mathematics B.S.*

Sept 2013 - June 2018 *Cal Poly Champion Recipient*