

## Daniel Crawford, MS, MEng, MA

Senior Machine Learning Engineer

Pittsburgh, PA

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**Linked In:** <https://www.linkedin.com/in/daniel-crawford-1415b5216/>

**Website, Portfolio:** <https://daniel-crawford.github.io/portfolio.html>

## Summary

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Passionate Senior Machine Learning Engineer with 11 years of experience (5 professional, 6 academic) in building, deploying, and optimizing machine learning models and scalable data pipelines. Proficient in Python, SQL, and cloud platforms (AWS, GCP). Hands-on expertise with deep learning frameworks (PyTorch, TensorFlow) and a strong foundation in DevOps for MLOps, including CI/CD and API deployment. Skilled at collaborating across teams to deliver production-ready solutions driving measurable impact.

## Professional Experience

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### Kero Sports

July 2024 – November 2024

**Data Scientist/Machine Learning Engineer** – Miami, FL [Remote in Pittsburgh, PA] (Full Time Employee)

- **Deployed and optimized scalable machine learning models** for real-time event prediction with 99.5% calibration accuracy, enhancing live sports analytics systems.
- Led end-to-end model deployment using **FastAPI on GCP**, enabling the integration of **3 new model types** and reducing latency by 20%.
- Conducted strategic visualization and analytics to refine pipeline performance, achieving a **66% improvement in operational efficiency**.

### Elfur, Inc.

April 2024 – November 2024

**Founding NLP/LLM Engineer** – New York, NY [Remote in Pittsburgh, PA] (Part Time Employee)

- Designed and Built **text summarization software** to parse resumes as **lead engineer**
- **Created Machine Learning/LLM Pipelines** that founded the organization-wide basis for product.
- Integrated **Mongo DB** and **OpenAI ChatGPT, Hugging Face, and LLAMA API** to automate training and testing data
- Established **database connections** and engineered text data **pipelines decreasing training time by 300%**
- Leveraged real-world business expertise and needs in conjunction with theoretical NLP and Linguistics

### Optimal Dynamics

August 2022 – December 2023

**AI Engineer/Data Analyst** – New York, NY [Remote in Pittsburgh, PA] (Full Time Employee)

- Implemented automated **machine learning workflows and deployments**, reducing **time-to-delivery** of analytics by 85%.
- Collaborated with engineering teams to optimize a cutting-edge Deep Reinforcement Learning Supply Chain model, **driving \$10M+ in client profit gains**.
- Led 5-member customer-facing solutions engineering and **machine learning engineering initiatives**, ensuring alignment with client goals and accelerating solution delivery

### Dept. of the Army, The Research and Analysis Center (TRAC)

July 2020 – April 2022

**Data Scientist, Operations Researcher/Systems Analyst** – Ft. Lee, VA (Full Time Employee, Civilian)

- **Led data science effort** for the creation of metrics and **discrete event simulation software**
  - Built **Automated Analytics library** in **R** to analyze sustainability operations
  - Designed and built **R Shiny** dashboards for **specific analysis types**
  - Created a **research article search engine** with **NLP summarization** techniques
  - Developed **analytics dashboard** in **Java** for Army General Officers to predict and apportion budget
  - **Mentored** junior Data Science/ORSA Interns and instructed in **data science** and **project management**
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- **Led data collection** from cross-disciplinary soldier and civilian specialist teams
- Received **award** from SES-2, institute director, in recognition for leadership of novel data science effort
- Recipient of DoD Science, Math, and Research for Transformation (**SMART**) **Scholarship** (\$150,000)

## Education

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**Master's of Computer Science - Machine Learning, MS** **August 2021 – April 2023**  
**Georgia Institute of Technology, College of Computing** – Atlanta, GA

**Master's of Linguistics, MA** **August 2023 – April 2024**  
**University of Pittsburgh, Dietrich School of Arts and Sciences** – Pittsburgh, PA

**Master's of Industrial Engineering, MEng** **August 2020 – April 2021**  
**MEng - New Mexico State University, College of Engineering** – Las Cruces, NM

**Bachelor's of Mathematics with Honors, BS (BPhil)** **August 2016 – April 2020**  
**University of Pittsburgh, Dietrich School of Arts and Sciences** – Pittsburgh, PA

## Technical Skills

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**Languages:** Python, R, SQL, Java, Matlab

**Frameworks:** PyTorch, Tensorflow, pandas, genism, spacy, NLTK, matplotlib, numpy, sci-kit, scikit-learn, sklearn, ggplot, 2, lubridate, tidyr, lm4, R Shiny, dplyr, keras, OpenCV

**Techniques:** Supervised Learning, Unsupervised Learning, Deep Learning, Reinforcement Learning, Natural Language Processing (NLP), Time-Series Analysis, Predictive Modeling, Anomaly Detection, Clustering, Classification, Regression, Dimensionality Reduction

Data Visualization, Exploratory Data Analysis (EDA), A/B Testing, Hypothesis Testing, Feature Engineering, Data Wrangling, Data Cleaning, Statistical Analysis, Simulation, Discrete Event Simulation

DevOps, Agile, Scrum, JIRA, Stakeholder Management, Cross-Functional Collaboration

**Technologies:** Amazon Web Services (AWS) (GUI, CLI), Google Cloud Platform (GCP), Snowflake (DWC), CI/CD, (Infrastructure-as-Code), dbt, Data Visualization, Predictive Analytics, Arena Simulation Software, Postgres SQL, Table Plus, MongoDB