

ETHAN NELSON

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Professional Experience

Software Engineer (Machine Learning & Data Ops)

Aug 2023-Present

Stukent

Remote

- Designing, implementing, and leading new company machine learning and data operations pipelines and processes. This includes setup of SQL warehouse and data governance procedures increasing efficiency of data pulls by utilizing spark/PySpark and model repositories such as databricks unity catalog and ML Flow.
- Developed workflows to automate training of machine learning models to be deployed into production use.
- Training NLP algorithms such as LSTMs and transformers to classify support tickets. Classification system is set up to alert engineers of bug related problems related to company platform.
- Implementing LLMs to explain student results in dynamic environment to increase student learning efficiency. Models are built to perform action based on user responses.
- Researching and proposing 10 new AI methods to increase platform capability, including use of generative AI (LLMs) to synthetically generate data and designing system to tune LLMs via RLHF.

Senior Data Analyst

Jan 2022-Aug 2023

iProspect

Remote

- Lead efforts in automation of data delivery by architecting new ETL pipeline logic and managing team of data engineers. New pipeline increased efficiency in runtime over legacy application by ~250%.
- Solved problems dealing with ad-hoc requests by having a solid understanding of python, SQL, data transformations and important KPIs. Revamped dashboard to aid in requests and highlight important KPIs.
- Built scripts to transform and join data to help case study dealing with 50% unattributed data points.

Software Engineer

May 2021-Dec 2021

ARCTEC Solutions

Middleburg, VA

- Automated installation of remote software, saving operators from hours of manual installation.
- Created data dissemination tool to pull data from APIs and remote databases to store into a local database.
- Modified signal intelligence device to effectively send packets to external application.

Data Science Intern

Jan 2021-April 2021

Snow Data Science

Remote

- Used data visualization to create results that were easily interpreted by humans.
- Researched unsupervised machine learning algorithms pertaining to clustering and use of dimensionality reduction (PCA).

Research/ Projects

Co-Founder AmyAI (2023)- Using LLMs and ChatGPT to improve communication between companies and customers by creating and deploying custom RAG pipelines based on customer data. Deploying APIs via flask in Microsoft Azure. Use of CI/CD to streamline deployment. Startup environment.

Point Cloud Classification- Use neural network to process spatial lidar imagery for object classification in automated warehouse robots. This aimed to fully automate warehouse robots to safely navigate the warehouse and detect which objects were around it.

Manufacturing Foreign Object Detection- Use of deep neural networks and computer vision to implement foreign object detection on manufacturing conveyer belts. The model was deployed to a small embedded device.

Technical Experience

- Python 3
- Machine Learning
- Deep Learning
- Torch / PyTorch
- NLP & LLM
- Databricks
- Artificial Intelligence
- Linux (Ubuntu, RedHat)
- SQL
- Data Science/Analytics
- Open CV
- Microsoft Azure

Education

Georgia Institute of Technology

2022-2025

MS. Science in Computer Science / Specialization in Interactive Intelligence

Remote

Notable Classes: Natural Language Processing, Knowledge based Artificial Intelligence, Machine Learning, Quantum Computing, Human Computer Interaction, Machine Learning for Trading,

Brigham Young University-Idaho

2018-2021

BS. Science in Computer Science

Rexburg, ID

Notable Classes: Machine Learning and data Mining, Computer Vision, Databases, Data structures, Discrete Mathematics, Linear Algebra