

# 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 to classify support tickets. Classification system is set up to alert engineers of bug related problems related to company platform.
- Implementing LLM to explain student results in dynamic environment to increase student learning efficiency.
- Researching and proposing 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.

### 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 of deep learning and neural networks to predict classification of point cloud images for use in robotic warehouses. Dealt with spatial lidar imagery.

## Technical Experience

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

## Education

### Georgia Institute of Technology

2022-2025

*MS. Science in Computer Science / Specialization in Interactive Intelligence*

*Remote*

### Brigham Young University-Idaho

2018-2021

*BS. Science in Computer Science*

*Rexburg, ID*