

# ALEXANDER MCINTOSH

[alexander\\_mcintosh@optum.com](mailto:alexander_mcintosh@optum.com) • [github.com/mcintalmo](https://github.com/mcintalmo) • [linkedin.com/in/mcintalmo](https://www.linkedin.com/in/mcintalmo) • Minneapolis, MN

## EDUCATION

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### Statistics and Data Science MicroMasters - MIT via edX Dec. 2023

- PyTorch | Neural Networks | Natural Language Processing | Statistical Inference | High Dimensional Analysis

### Bachelor of Arts in Physics - Saint John's University - Collegeville, MN Dec. 2021

- Minors in Mathematics and Music | Phi Beta Kappa Key Holder | Men's Chorus President

## CERTIFICATIONS

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### SQL for Data Science Specialization - University of California, Davis via Coursera Feb. 2023

- SQL | Apache Spark | Databricks | Distributed Computing | Business Intelligence

### Azure Data Scientist Associate - Microsoft Jan. 2023

- TensorFlow | Distributed Computing | Databricks | MLOps | Distributed Databases

### Applied Data Science with Python Specialization - University of Michigan via Coursera Nov. 2022

- Python | NumPy | Pandas | scikit-learn | matplotlib | Seaborn | NLTK | Network Analysis | Data Mining

### Data Science Professional Certificate - Harvard University via edX Aug. 2022

- R | Tidyverse | ggplot2 | Git | Data Wrangling | Visualization | Inference | Machine Learning

## WORK EXPERIENCE

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### Optum, Generative AI Analyst Jul. 2023 - Present

- Engineer a large language model to perform complex analysis by generating and executing SQL and Python
- Implement a retrieval-augmented generation pattern to inject business segment-specific metadata and definitions
- Analyze high dimensional text embedding with dimension reduction techniques to improve semantic comparisons
- Test generative artificial intelligence output for veracity, quality, and safety
- Develop a conversational Azure bot in JavaScript, deployed in a cloud environment
- Evaluate various time series models on forecast error and anomaly detection rates for key performance indicators
- Author press release materials, documentation, and delivered presentations to stakeholders

### Constelleum LLC, Software Developer Mar. 2020 - Jul. 2023

- Designed an accessible multiplayer online video game written in GDScript
- Automated testing and validation for server-side and client-side computational code
- Analyzed event logs to identify trends and inform balanced design

### Employment Specialist, Stevens County DAC Jan. 2022 - May 2022

- Delivered employment training and services to Stevens County residents with disabilities
- Implemented Minnesota state policies and educated administrators and job coaches on updates
- Crafted and executed employment plans, overseeing a team of 8 job coaches

### Job Coach, Stevens County DAC Oct. 2021 - Jan. 2022

- Coached 30+ individuals on job expectations and responsibilities
- Organized and led customized enrichment activities for accessibility services recipients