

# ANDY TAYLOR

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**Clearance Level:** DoD TS ◇ DHS Secret Fitness

## EDUCATION

**University of Virginia** Charlottesville, VA  
M.S., Astrophysics

Aug 2018 - May 2020

**Ohio State University** Columbus, OH  
B.S., Physics & Astronomy

Aug 2014 - May 2018

## EMPLOYMENT

**Senior Data Scientist / AI Engineer — The MITRE Corporation**

Jun 2020 - Present

- Developed and deployed transformer-based NLP models specializing in workforce intelligence applications.
- Implemented a variety of models, including job postings analysis and professional profiles scrutiny.
- Performed end-to-end machine learning using TensorFlow and Python in a production environment.
- Leveraged LLMs (GPT-4, Llama) for fine-tuning with few-/zero-shot learning applications.
- Ensured data accuracy and preprocessing for multi-language support using robust NLP pipelines.
- Designed algorithms for continuous NLP model improvement, focusing on performance metrics.
- Conducted complex data querying and cleaning on large-scale databases using SQL and Python.
- Published several research papers advancing NLP methodologies and workforce solutions.
- Monitored and maintained live NLP applications, ensuring scalability and efficiency on AWS and Azure.
- Communicated complex model insights to cross-functional teams, enhancing decision-making.

## NOTABLE PROJECTS

**Varied Filetype Document Summarization via Advanced NLP Techniques** *MITRE*

Jan 2025 - Present

- Implemented LLMs to automate document processing and summarization in multi-language support.
- Designed custom OCR techniques to handle structured and unstructured data from various file types.
- Developed AWS-based secure pipelines for real-time data processing and summarization.
- Enhanced algorithms with prompt engineering for specific formatting requirements.
- Achieved scalability and robust error handling in processing over 5.6M documents annually.
- Applied advanced NLP techniques such as NLP model tuning and adaptation to specific tasks.

**Automating Abstraction of Large PDFs for Enhanced Workforce Analysis** *MITRE*

Sep 2024 - Mar 2025

- Developed an end-to-end NLP system using LLMs for quick and accurate document analysis.
- Significantly reduced processing time by 79
- Integrated advanced vectorization techniques to pinpoint relevant document sections.
- Streamlined decision-making processes using custom-designed AWS Lambda functions.
- Implemented novel evaluation strategies including custom LLM confidence scoring.

**Automated Analysis of Cardiac CT Scans** *MITRE*

Jan 2021 - Sep 2024

- Utilized CNNs to automate CT image processing, significantly reducing clinical analysis time.
- Successfully completed model delivery securing additional self-funding through efficiency gains.
- Developed scalable cloud solutions to facilitate remote and real-time access to models.
- Contributed to high impact factor journals sharing innovative machine learning applications.

## NOTABLE PROGRAMMING EXPERTISE

**Programming Languages**

Python, SQL, R, C++

**Other Notable Software**

AWS, Azure, LLMs (GPT-4, Llama), TensorFlow, Git, Jira, Spark, Hadoop, Confluence, Pandas, Excel