

Michael Ross Thornton

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Professional Summary

Senior AI/ML Engineer and Data Scientist with 12+ years of experience delivering mission-critical solutions within the Department of Defense (DoD) sector. Proven expertise in architecting, engineering, and deploying Generative AI solutions (RAG, Azure OpenAI, LangChain) fully integrated with enterprise platforms like Microsoft Power Platform and SharePoint. Proficient across the full data science lifecycle, from complex data analysis (Palantir, Python) to building robust data pipelines and transforming challenging datasets into actionable intelligence that drives strategic outcomes.

Education

George Mason University - Master of Arts in Psychology, Concentration in Human Factors and Applied Psychology

Flagler College - Bachelor of Arts in Psychology

Work Experience

AI/ML Engineer

Peraton — April 2025 - Present

- Engineered and deployed a full-stack Generative AI solution within Azure, leveraging the LangChain framework and Azure OpenAI LLMs to power an agentic LLM chatbot fully integrated with Microsoft Teams and the Power Platform.
- Architected and implemented a robust data pipeline that seamlessly syncs documents from Microsoft SharePoint to an Azure vector database, establishing the foundational data integrity for a Retrieval-Augmented Generation (RAG) system.
- Enhanced RAG model transparency by designing an orchestration pipeline that embedded direct links within LLM responses, pointing users to the specific SharePoint source documents utilized for verification.
- Developed intelligent applications and automated data workflows using the Power Platform (Power Apps, Power Automate) and Azure services to integrate AI capabilities and significantly enhance operational efficiency for Army programs.

Sr. Data Scientist

RealmOne — December 2023 - March 2025

- Led and built the data science team from inception, shaping critical processes and workflows while mentoring staff to develop their technical expertise in advanced analytics.

- Enhanced data engineering capabilities by developing custom Python API wrappers for seamless data integration and extraction from established sources like Elasticsearch/Kibana and various non-standard DoD platforms.
- Informed strategic decision-making on a multi-billion dollar program by translating complex data analysis into actionable findings and delivering insightful technical reports to senior leadership.
- Applied advanced machine learning and visualization tools (TensorFlow, scikit-learn, Matplotlib, Plotly) to analyze and manipulate data, effectively communicating data-driven insights to diverse stakeholders.

Sr. Data Engineer

Peraton — November 2021 - December 2023

- Led and prioritized technical projects as the Technical Team Lead for a Platform Support Team, enhancing team capabilities by providing training to non-technical members in Python and key data skills.
- Engineered comprehensive data ingest and visualization pipelines using Python, Elasticsearch, and Kibana to create a single database of the Army's connected devices, enabling Cyber leadership to better visualize their digital terrain.
- Developed and deployed advanced data engineering utilities, including parsers and data standardization models for ingest pipelines, a scalable web scraping utility, and an analytic with a dynamically generated UI that provided access to previously inaccessible, complex data.

Discovery Analyst

Sentar, Inc — July 2016 - November 2021

- Led the development and deployment of high-impact data science analytic projects across diverse domains, including adtech data, network analysis, and geospatial intelligence, serving federal clients.
- Engineered full-stack data science solutions that delivered massive operational efficiencies, including one analytic that saved over 6,600 analyst hours within six months and another that increased data processing volume by 875%.
- Developed end-to-end data pipelines and tradecraft to automate complex processes, including programmatic web scraping (BeautifulSoup, Selenium), API integration, and automated report generation based on network activity.
- Designed and published custom tools to query, join, and enrich data, utilizing a Python-centric tech stack (Pandas, Plotly, Matplotlib) and Elasticsearch to create visualizations and provide training to both technical and non-technical users.