HARRIS MOHAMED

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Interests: Data Science, Data Analytics, AI/ML, Sensor Networks, Space Domain Awareness
Programming: Python, C, C++, CUDA C++, Java, HTML, CSS, JavaScript, Angular, PySpark, Pandas, Scikit, SciPy
Frameworks/Tools: Atlassian Tools (Bamboo, Bitbucket, Confluence, JIRA), Docker, Kubernetes, Git, Gitlab
AI/ML/Data: PyTorch, TensorFlow, Dagster, Postgres, MySQL, MongoDB, Neo4j

SELECTED EXPERIENCE

Kratos Defense and Security Solutions   Colorado Springs, CO
Space Domain Awareness Software Development Engineer II   October 2021 – Present

- Led data analytics efforts for the Kratos Global Sensor Network, developing multiple proof-of-concept analyses centered on Space Domain Awareness (SDA). Regularly presented SDA prototypes to senior stakeholders and collaborated cross-functionally with domestic and international teams.
- Developed analytics prototypes for bandwidth utilization, maneuver detection with emphasis on anomalous satellite behavior, and RF interference identification, supporting mission-critical assessments in Space Domain Awareness.
- Built a Dagster-driven pipeline to support seamless integration of data collected from 20 edge servers, resulting in a 65M+ row Data Warehouse designed for high-performance querying of SDA datasets.
- Laying foundational infrastructure to support the responsible and secure deployment of large language models within existing analytics environments.
- Mentored 20+ interns through daily standups and individualized support across technical and soft-skill areas; contributed to intern recruitment by conducting interviews for future cohorts.

SELECTED PUBLICATIONS

- **H. Mohamed.** *"Expanding Pattern-of-Life capabilities on Passive Radio Frequency datasets"*, Accepted for AMOS 2025.
- **H. Mohamed.** *"Methods of Detecting Electromagnetic Interference in Passive Radio Frequency Data",* GSAW 2025. [Website]
- **H. Mohamed.** *"Monitoring Satellite Pattern-of-Life Changes with Passive Radio Frequency Data"*, AMOS 2023. [Paper]

EDUCATION

- **University of Illinois at Urbana-Champaign**   May 2025
  Master of Computer Science (Machine Learning, Cloud Computing)
- **University of Illinois at Urbana-Champaign**   May 2021
  Bachelor of Science in Computer Engineering

Relevant Coursework: Applied Machine Learning, Deep Learning in Healthcare, Database Systems, Cloud Computing Applications, Internet of Things, Applied Linear Algebra

SELECTED PROJECTS

Automated hydroponics   March 2023 - Ongoing

- Developed a Raspberry Pi–based hydroponics automation system featuring a Postgres backend, Python Dash dashboard, and sensors for temperature, humidity, and soil moisture.
- Ongoing work includes automating environmental controls based on real-time data.
- Successfully grew strawberries, lettuce, and green onion.