

# Alhassan Sahad

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## WHY HIRE ME?

An Experienced Data Scientist with a proven record of developing and deploying end-to-end machine learning solutions to solve complex business problems at scale. Skilled in statistical modeling, deep learning, and data engineering, with experience in optimizing workflows on large datasets to deliver measurable impact. U.S. Permanent Resident granted Green Card under individual with exceptional ability category and fully work authorized without sponsorship

## WORK EXPERIENCE

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**Weyerhaeuser, Seattle, WA**

**August 2024 – Present**

### Data Scientist

- Built a deep learning model (U-Net) to predict tree species, age and volume across **100M acres**, reducing manual inspection by 70% and informing \$500M in strategic land acquisitions across North America
- Designed a modular Python pipeline for evaluating model accuracy at scale, cutting processing time from 10 hours to 2 hours
- Indexed and managed >10TB of satellite imagery using Open Data Cube on AWS, reducing data access **latency by 80%** and cutting cloud compute cost by \$50K per year
- Collaborated with PMs and engineers to define KPIs for measuring success of forest attribute prediction models and deploy model insights to cross-functional stakeholders for resource planning

**NASA-Marshall Space Flight Center, Huntsville, AL**

**May 2023 – July 2024**

### Data Scientist

- Developed Python workflows for high-dimensional climate data processing in Southeast Asia, improving analytics speed significantly
- Built a CNN-based image segmentation model in TensorFlow for early wildfire detection in SE Asia, achieving 85% accuracy and improving firefighting capacity by 50%
- Created interactive dashboards using Leaflet and Flask to share insights with NASA's Global Landcover team and 1,000+ users
- Worked with data engineers and researchers to translate scientific objectives into reproducible ML pipelines

**Institute for Data Science and Informatics, Columbia, MO**

**August 2022 – May 2023**

### Data Scientist

- Conducted Exploratory Data Analysis and geospatial analysis using Sentinel-2 imagery to evaluate vegetation change and ecological impacts
- Built a Random Forest model for nitrate prediction in EPA Region 7, achieving 97% accuracy for water quality monitoring
- Presented findings at the Missouri GIS Conference to government stakeholders, translating technical results into policy impact

## EDUCATION

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University of Missouri-Columbia – **MS in Data Science and Analytics, May 2024**

Illinois State University – **Graduate Certificate in GIS, May 2022**

Kwame Nkrumah University of Science and Technology – **BS in Geological Engineering, July 2019**

## TECHNICAL SKILLS

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**Languages & Frameworks:** Python, SQL, R, MATLAB, TensorFlow, Keras, PyTorch

**Techniques:** A/B Testing, Time Series Forecasting

**Tools:** ArcGIS Pro, QGIS, Power BI, PostgreSQL, Visual Studio Code, AWS, MS Azure, GCP, PySpark, git, BigQuery

## PUBLICATION AND CERTIFICATIONS

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**Alhassan Sahad, Eric W. Peterson;** Transport and Fate of Nitrate in a Saturated Buffer Zone as Assessed with a Chloride Tracer Test. *Environmental & Engineering Geoscience* 2024; 30 (3): 161–171. doi: <https://doi.org/10.21663/EEG-D-23-00078>

**Certifications:** Computer Vision NanoDegree- Udacity, NLP & Deep Learning Specializations - DeepLearning.ai, AWS Machine Learning, Nucamp Full Stack Software Development