Souleymane Wilfried Sankara

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 GitHub   —   in LinkedIn   —   PortFolio

About me

Passionate computer scientist specializing in Applied Artificial Intelligence with expertise in machine learning, data science, and software development. Skilled in analyzing complex datasets (UAV imagery, yield data, time series, NLP) and building end-to-end solutions. Experienced teaching assistant and research assistant, combining technical expertise with leadership and communication skills.

Education

Master of Computer Science (Applied Artificial Intelligence)   Sep 2023 – Aug 2025 (Expected)
University of Ottawa, Ottawa, ON
Thesis: *Spatial Generalization of Crop Yield Prediction using UAV Imagery and Machine Learning*
Relevant courses: Deep Learning, Reinforcement Learning, NLP Applications, Machine Learning

Joint Honours BSc in Computer Science and Mathematics   Jan 2019 – Aug 2023
University of Ottawa, Ottawa, ON
Graduated *Magna Cum Laude*, CGPA: 8.31/10
Dean's Honour List (2019–2020), Merit Scholarship

Technical Skills

Programming: Python, R, Java, Go, SQL
AI/ML: PyTorch, TensorFlow, Scikit-learn, Deep Learning, Reinforcement Learning, NLP, Computer Vision
Web/Mobile: HTML, CSS, JavaScript, React, Node.js, Firebase, PostgreSQL, React Native, Flutter
GIS/Remote Sensing: QGIS, Rasterio, GeoPandas, Shapely
Tools: Git, Jupyter, VS Code, Colab, GPU Cloud Platforms
OS: Linux, macOS, Windows

Professional Experience

Research Assistant – IoT Lab   Sep 2023 – Present
University of Ottawa, Ottawa, ON

- Conduct research on smart farming using multi-source datasets from Canadian farms.

- Design and evaluate ML models for crop yield prediction from UAV multispectral imagery.

Teaching Assistant   Sep 2020 – Present
University of Ottawa, Ottawa, ON

- Led labs/tutorials for courses: Python, Java, Databases, Calculus I & II, Programming Paradigms.

- Provided academic support, answered student queries, and proctored/grading responsibilities.

Volunteer Team Lead – Media   5+ years
Non-Profit Organization

- Supervised a creative media team, producing video, design, and digital campaigns.

Relevant Projects

CNN for UAV-Based Yield Prediction — Python, PyTorch, Scikit-learn
GitHub Repo

- Built CNNs to predict crop yield from 7-band UAV imagery tiles.

- Designed spatial validation strategies (baseline, mixed, LOFO, cluster).

Yield Data Processing Pipeline — Python, GeoPandas, QGIS
GitHub Repo

- Cleaned and processed raw yield monitor data from multiple Canadian farms.

- Implemented algorithms to correct harvester lag, remove outliers, and improve yield map reliability.

Faithful Reasoning via DeepSeek — NLP, LLMs, LoRA, RL
GitHub Repo

- Enhanced reasoning in small LLMs (LLaMA-3B) using knowledge distillation + GRPO fine-tuning.

- Improved factual accuracy and step-by-step reasoning in model outputs.

Soft Skills

Problem Solving   —   Critical Thinking   —   Team Leadership
Project Management   —   Communication   —   Research & Teaching