KUNLE OGUNTOYE

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https://github.com/Kunle-xy

EDUCATION

Iowa State University (ISU), Ames, IA

Masters of Science (Intelligent Infrastructure) – 3.63/4.0 **Jan 2022–May 2024**
[courses: machine learning, computational perception, and natural language processing]

INTERESTS

Data Science | Machine Learning | Software Engineering | Computer Vision | AWS

CERTIFICATIONS

- **AWS Certified Machine Learning- Specialty** **September 2023**
- Coursera – Machine Learning by Stanford online **March 2023**
- Coursera – Generative AI with Large Language Model (LLM) **August 2023**
- Udacity nano degree – Computer Vision **March 2023**
- FAA remote pilot license **January 2023**

WORK EXPERIENCE

Musco Sport Lighting

Machine Learning Engineer Intern (Computer Vision) **May 2023–Aug 2023**

- Built an end-to-end Machine Learning Operations system, improving overall deep learning tracking and GPU usage by 15%.
- Developed a smarter and cost-effective data labeling workflow on AWS SageMaker Ground Truth, boosting data labeling efficiency by 10%.
- Developed a python script for video stitching operations, enabling overall faster stitching operations by 20 %.
- Built an automated ETL pipeline for image data, ensuring seamless data transformation and timely filtering of image label data.
- Developed end-to-end machine learning model development on AWS using S3 and SageMaker built-in algorithm.
- Labeled and trained image data using the Yolo algorithm for object detection tasks.

Iowa State University (ISU), Ames, IA

Graduate Research Assistant **January 2022–Dec 2023**

- Developed a web application for self-utility mapping, enhancing excavator understanding of utility locations prior to digging using React and Django.
- Conducted comprehensive research to address the knowledge gap by evaluating approximately 300 research papers.
- Designed and trained various computer vision algorithms, including Yolov5, Faster R-CNN, and SSD, for the localization of aboveground utility assets from UAV images.
- Developed and published new insights in a peer-reviewed journal, contributing to the field of utility mapping.
- Created an innovative utility mapping strategy to non-intrusively locate buried utilities with a high level of confidence.
- Conducted extensive research on novel polymeric crawling sensors for real-time structural health monitoring.
- Processed sensor data through advanced filtering algorithms in MATLAB for signal analysis.

SKILLS: [Github: https://github.com/Kunle-xy]

Technical Skills:

- Continuous Integration and Continuous Deployment (CI/CD): Git/Github, Jenkins, Tekton
- Programming language: Python, JavaScript, and C++

- Extraction, Transformation, and Loading (ETL) for big data: AWS (Glue, Athena, Kinesis, Data Pipeline, Aurora, Elastic Map Reduce), Apache Spark, SQL
- Machine Learning Models (NLP and Computer Vision): PCA, Naive Bayes, time series, xgboost, causal inference, transformers, YoloV5, OpenCV, PyTorch, TensorFlow, AWS (Deep AR, SageMaker, Lex, Polly, etc.)
- Data Science and Business Intelligence: pandas, Plotly, Tableau, Power bi
- MLOps and software stacks: WandB, Mlflow, cometMl, docker, PostgreSQL, AWS Dynamo DB, Lambda, Agile development, Azure, Linux, Flask, Django, CSS, HTML, Kubernetes, NodeJs, Express and React.

Soft skills: team player, PowerPoint presentation, problem-solving, leadership, teaching.

PUBLICATIONS

- **Oguntoye, K**. S., S. Laflamme, R. Sturgill, and D. J. Eisenmann. 2023. "**Review of Artificial** Intelligence Applications for Virtual Sensing of Underground Utilities." Sensors, 23 (9): 4367. Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/s23094367.[link]
- **Oguntoye, K.** S., S. Laflamme, R. Sturgill, and D. J. Eisenmann. 2023. "**Probabilistic Method to Fuse Artificial Intelligence-Generated Underground Utility Maps with Available Records**." (under review)

PROJECTS (Freelancer, Data Scientist)

- Built a web application for article summarization using Flan-T5 model, react, and Django rest framework.
- Developed a probabilistic gradient map web application for making inferences about underground utility confidence.
- Developed a product recommender system using AWS Personalize, boosting customer retention by 25 %
- Developed a customized Yolo architecture for faster inference.
- Developed a sales insight dashboard using Power Bi, improving business understanding and fast decision making.
- Performed big data ETL using Apache Spark.

LEADERSHIP AND SERVICE EXPERIENCE

Data Science Club, Vice President **September 2022–August 2023**

- Organized training events for club members on different data science modules.

RISE initiative, Cofounder **December 2018–2019**

- Organized a mentorship program for 1000+ high school students.
- Guided students in materializing their assigned SDG capstone projects.

Hult prize competition (Global), The University of Ibadan, Head of Logistics 2018

- At the time, I organized the university's largest entrepreneurial competition.
- I acquired the necessary funds from sponsors by presenting the club's visions and goals.