

KWABENA ARTHUR

Website: www.kwabenaarthur.com | Email: thekjarthur@gmail.com | Phone: +1-617-800-6842

AI/ML Engineer with 5+ years of experience in commercial and research machine learning. Practical experience in a wide range of machine learning algorithms, scoping and validating data pipelines, and model development and deployment. Strong background in incorporating physics into data-driven algorithms.

EDUCATION

Massachusetts Institute of Technology (MIT)

B.Sc. in Mechanical Engineering and Physics

M.Sc. in Mechanical Engineering

TECHNICAL SKILLS

Python, Matlab, C++, Bash

Tensorflow, Pytorch, Keras, XGBoost, Sci-kit learn, Jupyter

AWS, Linode, CVAT, Superset, SQL

CAD, CAM, Electronics, PCB, Prototyping

WORK EXPERIENCE

Samsung SmartThings, Computer Vision & Machine Learning Research Engineer (Oct '22 - Feb '24)

- Developed and deployed XGBoost model for presence state detection of user locations.
- Developed a scalable automated dataset creation pipeline, handling billions of events daily.
- Implemented rigorous data validation and strict compliance to Samsung data security requirements.
- Implemented monitoring for evaluating data drift and ensuring dataset representativeness.
- Actively researched and presented cutting-edge AI advancements and novel algorithms.

TAE Ghana, Lead Engineer (Jan '24 - Feb '24)

- Designed system including hardware, firmware, web platforms, and analytical models, for comprehensive analysis of livestream and recorded matches.
- Directed the development of CNN models for tracking events, players, and balls for sports analysis.
- Designed and implemented a scalable instance system for online and offline computation.
- Established rigorous manual annotation strategy, ensuring consistency and accuracy.

Labby Inc, Head Data Scientist (Jun 21 - Oct 22)

- Developed and deployed regression models to estimate milk composition and classification models to assess cow health based on milk spectral measurements and historical cow data.
- Utilized unsupervised learning techniques to explore data subdomains for evaluating performance.
- Pioneered physics-based feature engineering techniques further enhancing model performance.
- Strategized and executed data collection and logging, significantly improving quality and precision.
- Investigated sources of data variability, leading to improved data fidelity and model performance.
- Explored novel applications of technology for additional fluorophores, resulting in a patent.

MIT Mechanical Engineering Department, Research Associate (Aug 20 - Jun 21, Aug 17 - Sep 18)

- Developed computer vision models for tomography, phase retrieval, image enhancement, fake image detection and scene text recognition.
- Orchestrated data collection efforts for several projects.
- Created accurate simulation packages for augmenting datasets.
- Researched and presented on latest publications and advancements in computer vision.
- Created high-accuracy simulations for dataset augmentation in multiple projects.
- Designed and built various electronic, robotic, computational, and optical hardware components.
- Effectively communicated performance results to sponsors and in several publications.