Nathan Kueterman

Motivated Machine Learning & Computer Vision Engineer with expertise in multi-object tracking, object detection, segmentation, classification, and image processing, seeking a challenging, technical role.

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CLEARANCE
ACTIVE TOP SECRET

EXPERIENCE

L3Harris, Mason, OH — *Machine Learning Engineer*

August 2020 - May 2024

Developed Multi-Object Tracking (MOT) products for EO/IR sensor applications encompassing detection, classification, and tracking/association using Python and state-of-the-art AIML methods. Implemented tracking/association & re-identification algorithms including DeepSORT, Kalman Filters, Siamese CNNs, and Transformers with integrated sensor metadata. Conducted AIML research projects, both from scratch and by modifying open-source repositories. Created MLOps and data engineering software for rapid ML development using MLFlow, DVC, CML, Labelbox, DataRobot, Docker, and Git. Developed GitLab pipelines for automated data processing and AIML training on distributed computing. Orchestrated the integration of external products from data curation to auto ML that optimized and standardized MLOps processes. These added tools and processes were integrated by multiple teams across the company. Amongst this work, there were many image processing tasks and experiments to enhance algorithmic performance.

University of Dayton, OH — *Graduate Research Assistant*

July 2018 - May 2020

Developed a MATLAB GUI for image and video data annotation used by multiple teams. Created a Synthetic Data Generative Pipeline with interactive scene generation and flight path control, using classical image processing and GANs. Explored UAV detection, tracking, and classification with segmentation and tracking algorithms (intensity-based, GMMs, YOLO). Investigated dimensionality reduction and feature selection methods, integrating conventional machine learning with deep learning.

UD Research Institute, OH — *Electrical Engineering Aide*

August 2017 - September 2018

Conducted testing with hardware-in-the-loop (HIL) and real-time systems (OPAL-RT) for an Aircraft Electric Power System. Performed software and system development using Simulink to detect and mitigate arc flash and other short circuit potential. Performed various HIL experiments to support researchers and supplemented results with documentation.

EDUCATION

University of Dayton, OH — *BS Electrical Engineering*

August 2013 - May 2018

GPA - 3.49

University of Dayton, OH — *MS Electrical Engineering*

August 2018 - May 2020

GPA - 4.0

SKILLS

- Python, MATLAB
- Machine Learning, Deep Learning
- Image Processing, Computer Vision, OpenCV
- PyTorch, TensorFlow, Keras
- ONNX, TensorRT
- Git, Docker, MLFlow, DVC, GitLab, CI/CD pipelines
- Java & C++ familiarity
- Object Detection, Tracking, Classification & Segmentation
- Medical Imaging Research
- EO/IR, Medical Datasets
- Agile, Scrum, Jira, Confluence

AWARDS

2023 Engineering e3 Award - AIML Acceleration