John Doe

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EDUCATION

M.S. – Electrical Engineering, Syracuse University — May 2020

SKILLS

Python | C/C++ | SQL | PyTorch | TensorFlow | Scikit-learn | Pandas | Matplotlib | CUDA | AWS | OpenCV

WORK EXPERIENCE

Senior Machine Learning Software Engineer – Company A, Boston — Feb 2022–Present

Project – Unexploded Ordnance Detection Using Overhead Drone Imagery (Client - DARPA)

- Fine-tuned YOLOv11 for detecting unexploded bombs/missiles in a battlefield with 98% precision
- Built an inference server with REST API to deploy model for real time, scalable inferencing
- Programmed the communication pipeline to transmit Cursor-on-Target messages from the server to a tactical situational awareness map-viewer app (ATAK) via TCP for real-time visibility of ordnances

Project – Segmentation of Unsafe (MDEH) Ammunition (Client - US Army)

- Trained HRNet-v2 models to segment hazardous and non-hazardous bullets with 89% pixel accuracy
- Optimized the model (FP16 precision) deploying it on NVIDIA Jetson Xavier for real-time inference

Project – Drone Defect Detection Using Vibration Analysis (Client - NASA)

- Designed, trained and deployed 1D CNN to detect screw and blade defects on drones using vibrational data
- Designed the data collection and processing pipeline for collecting vibrational data using accelerometers on the drone

Project – Multi-Sensor Drone Imagery Processing and Visualization (Client - San Francisco Giants)

- Developed a drone-based system to capture high-resolution imagery using RGB, thermal and NIR cameras for Oracle Park (Giants' stadium) processing 2TB images a month
- Designed an automated, scalable AWS pipeline to upload drone images to S3, trigger EC2 instances for real-time orthomosaic stitching, tiling and storage
- Built a client facing web-portal visualizing stitched orthomaps to monitor turf conditions

Machine Learning Engineer - Computer Vision – Company B, Michigan — Feb 2021–Feb 2022

- Trained, deployed ResNet-Upernet model for floor and wall segmentation - 85% mAP
- Trained and deployed an HRNet-v2 using AWS SageMaker for cabinet segmentation - 90%mAP
- Built depth estimation solutions using DenseDepth network serving 1000s of clients a day
- Led the development of a CycleGAN to extract perspective quadrilaterals from room images

Data Science Teaching Assistant – Company C, New York — Sep 2020–Jun 2021

- Mentored and trained 60 students in Python, R, SQL, ETL, Tableau, A/B testing
- Conducted weekly office hours to help students with assignments and technical questions

Data Scientist – Company D, India — Jun 2017–Aug 2018

- Reduced marketing costs by 15% using customer data segmentation for targeted ads
- Led a 3-member team to develop sales forecasting models for inventory management

Machine Learning Researcher – Company E, India — May 2016–Jun 2017

Project – Machine Learning Based Fitness Tracking Wearable Band

- Tested K-means, Regression, SVM models to predict human obesity with 98% accuracy, dataset size:144,000
- Programmed MQTT channel Python API to transfer caloric data from fitness band to cloud

Project – Object Detection System for Self-Driving Cars

- Worked with Government of India to train a YOLOv2 to detect common street objects for autonomous cars
- Created a data ingestion pipeline to route images from a Sony IMX imager to edge devices for analysis

PUBLICATIONS

Machine Learning Based Fitness Tracker Platform Using MEMS Accelerometer - IEEE peer-reviewed paper with 15+ citations