Amoke Emmanuel Chinonye

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SUMMARY

Deep learning engineer specializing in computer vision and reinforcement learning. Experienced with Pytorch and passionate about visual intelligence and autonomous systems. Committed to learning in public, contributing to open source projects and staying at the frontier of AI development.

WORK EXPERIENCE

NeuroStack AI Labs - Remote Jan. 2023 - April. 2023
Deep Learning Engineer Intern
- Implemented CNN-based image classifiers using Pytorch for fashion categorization
- Trained models on 25,000+ images from custom datasets with data augmentation and hyperparameter tuning
- Achieved 88% test accuracay and deployed the model via Streamlit for public demo access.

VisionForge Analytics - Remote Sept 2023 - Jun 2024
Computer Vision Research Assistant
- Built a custom object detection pipline drone survellience using OpenCV and YOLOv5
- Collected and labeled real-time aerial footage improved detection accuracy by refining anchor boxes.
- Optimized inference pipeline to run on edge devices.
- Collaborated on a team of 3 to publish internal research reports and visualization Dashboards

Simulearn Dynamics - Remote July 2024 - Feb. 2025
Reinforcement Learning Project Contributor
- Developed a Dep Q-Network (DQN) agent in Pytorch to navigate a custom 2D grid-world enviroment.
- Used OpenAI GYM + PyBullet for physics-based simulation and curriculum learning.
- Conducted 20+ experiments testing reward shaping and policy generalization
- Documented findings and presented learnings in internal Slack demos and weekly reports.

EDUCATION

University of Nigeria, Nsukka Sept. 2020 - Dec. 2024
B.Sc. Computer Science
Relevant Course Work: Machine Learning Data Structures, Linear Algebra, Probability & Statistics
Final Year Project: Vision-Based Object Detection Using Convolutional Neural Networks

PROJECTS

Fashion Image Classifier Feb. 2025
Tools: Pytorch, Google Colab, Streamlit, Torchvision, Matplotlib
- Trained A CNN on a multi-class clothing dataset with 3-channel images
- Achieved 88% test accuracy after iterative tuning of kernel size, padding and dropout
- Deployed on Streamlit to allow real-time user uploads for classification

Autonomous Lane-following Car in Simulation Dec. 2024

Tools: Pytorch, OpenCV, Carla Simulator, NumPy

- Buit a self-driving car agent in 3D simulator using computer vision and reinforcement learning
- Used CNN-based vision model to extract lane position from front-view camera
- Trained a DQN (Deep Q-Network) agent to steer and stay in lane using reward-based feedback

Visual Object Tracking with Siamese Networks

Apr 2025

Tools: Pytorch, OpenCV, CARLA simulator, NumPy

- Implemented a real-time object tracking system using SiamFC (Siamese Fully Convolutional Network)
- Trained the model on ImageNet VID to track objects across frames with pixel-level precision
- Achieved stable performance on unseen video sequences with low latency (<30ms/frame)

SKILLS

Programming & Frameworks

- Python, Pytorch, Numpy, OpenCV

Deep Learning & Computer Vision

- Convolutional Neural Networks (CNN)
- Transfer Learning (ResNet, VGG, EfficientNet)
- Image Classification & Object Detection
- Image Processing & Augmentation
- Model Evaluation & Optimization

Reinforcement Learning

- Deep Q-Networks (DQN), Policy Gradients
- OpenAI Gym, Stable Baselines3
- Reward Shaping & Environment Design
- Training agents in simulation

Tools & Platforms

- Google Colab
- Git, Github, VSCode
- Streamlit, FastAPI

Soft Skills

- Learning in Public
- Problem Solving
- Research and Experimentation
- Technicals Writing