JOHNNY JEYAKUMAR

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WORK EXPERIENCE

Machine Learning Engineer / Computer Vision   April 2022 — Oct 2023
Zoomi Technologies   *Canada*
- Developed scalable AI solutions for **LLMs, RAG, AI Agents, Computer Vision, and XGBoost**, leveraging GPT-2, LLAMA, YOLOv8, and UNet, improving model metrics by 15%.
- Architected and optimized cloud-based AI pipelines in AWS (EC2, SageMaker, Lambda, S3), reducing training runtime by **10%** and improving inference speed by **35%**.
- Led a team & designed, trained, and deployed AI models for self-checkout systems (**Amazon Go-style**) using **YOLOv5 and real-time tracking**, increasing object detection accuracy (**F1-score +20%**).
- Developed and deployed end-to-end MLOps workflows, utilizing **Docker, Kubernetes, MLFlow, and CI/CD pipelines**, enhancing model reliability and versioning.
- Built multimodal foundation models, integrating **vision-language models (CLIP, Transformers)** for product recommendation, sentiment analysis, and personalized LLM-driven marketing.

Associate Electronic Engineer / Deep learning   May 2021 — Dec 2021
Effective Solution   *Sri Lanka*
- Developed and deployed AI APIs using **Django and JavaScript**, optimizing backend performance by 25% and enhancing **customer experience by 15%** through faster and more reliable AI-driven services.
- Integrated the Segment Anything Model (SAM) with computer vision pipelines, reducing manual annotation time and improving **dataset quality** for faster and more accurate image segmentation.
- Managed large-scale datasets, applying **PCA, UMAP, and t-SNE** for **feature engineering**, improving **model interpretability by 10%** and enhancing **decision-making in AI models**.

PROJECT

Multimodal E-Commerce LLM Recommendation Engine / M.Sc Project/Best Project   Jan 2024 — Dec 2024
Teesside University London   *London, UK*
- Built a multimodal recommendation system integrating **LLMs (GPT, BERT), vision models (CLIP), and temporal embeddings**, improving personalization efficiency by 18%.
- Leveraged Transformer-based sequence modeling to enhance **user-item interaction predictions**, improving recommendation accuracy and click-through rates.
- Applied LLM-powered text analysis on **Amazon review datasets**, extracting **sentiment, trends, and user intent** for **context-aware recommendations**.
- Conducted seasonality-based product trend analysis using **time-series forecasting**, increasing engagement and retention for personalized promotions.

EDUCATION

Master's in Data Science *Teesside University London*, **Distinction**   Dec 2024
BSc (Eng) in Electronic and Telecommunication Engineering, *University of Moratuwa, Sri Lanka*   2017 – 2022
Coursera *Amazon Bedrock Getting Started with Generative AI , AWS Foundations of Prompt Engineering, LangChain LLM Application Development, RAG Building Multimodal Search and RAG*   2025

CERTIFICATION

Coursera *Amazon Bedrock Getting Started with Generative AI , AWS Foundations of Prompt Engineering, LangChain LLM Application Development, RAG Building Multimodal Search and RAG*   2025

SKILLS

Deep Learning and ML	Image Classification, Object Detection, RAG, LLMs, AI Agents, GPT-4
Computer Vision	YOLOv8, U-Net, CLIP, Vision Transformers (ViT), Semantic Segmentation
ML Frameworks	PyTorch, TensorFlow, Scikit-learn, OpenCV
Big Data & MLOps	PySpark, MLFlow, Docker, Kubernetes, Apache Airflow, CI/CD
Cloud & DevOps	AWS (SageMaker, S3, EC2, Lambda), GCP, Azure,MySQL, MongoDB, Vector Databases

ACTIVITIES

Best Overall Project in Computing & Courser Represntative - Teesside University London, London, UK   2024
HackX - 2nd Place | SLIoT, Brain Strom, IEEE Innovation Nation - 1st place | SL EXSTO - Merit award | Hackstat 2.0, Yarl Geek – participate   2020
Mahapola Scholarship for best result in G.C.E Advance Level Mathematic Stream   2017
Gold Medal for Entering University of Moratuwa for Engineering   2016