# Mohammed Omer

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### Education

Bachelor of Computer Applications (B.C.A) Web Computer Development | Currently Pursuing Artificial Intelligence Engineer

October 2022 - Present
Coursera- IBM Networks
August 2023 - Present

St Paul's Degree College

## Work experience

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IBM AI Engineering | Currently Pursuing

- Improved document recognition process in a healthcare facility by 37% and enhanced their document management system by designing a multimodal AI-based system using cutting-edge models.
- Drove implementation of complex algorithms to train and run the Vision Transformer model as proposed by the Google Brain team using PyTorch, achieving a final F1 score of 90% on a dataset of 1.5 million images.
- Leveraged explainable AI techniques to provide transparent insights into Vision Transformer predictions, enhancing trust and confidence in the system's decisions among users.
- Trained language model FlauBERT to solve downstream tasks (e.g., sentence classification, named entity recognition), using a dataset of over 2M documents, demonstrating proficiency in handling large-scale data and fine-tuning foundation models.

Web Developer	
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- Improved counting process accuracy at an exotic aquarium store by 23% and increased company's ROI by developing and implementing a real-time computer vision system for tracking and counting fish species, using the ML.NET framework.
- Designed robust algorithms to build and run the YOLOv4 model with TensorFlow and OpenCV, ensuring accurate and efficient fish tracking in real-time.
  - Improved real-time operational efficiency on a Raspberry Pi system by implementing AI model quantization for edge devices using TensorFlow Lite, thus streamlining computational requirements and model size.

### Selected projects

Portfolio website: (for additional information and projects) <u>mohammedomer.vip</u>

PaperWhiz github-repository (report)

- Developed an NLP-based paper recommender system that can help data science enthusiasts discovering valuable machine learning papers to explore with the arXiv API and Hugging Face Sentence Transformers.
- Maintained feature engineering, training, and inference piplines using Github Actions and Hopsworks, leveraging its feature store and model registry.

#### Skills and Certifications

Development: Python, scikit-learn, HTML, CSS, TensorFlow, PyTorch, JAX, XGBoost, OpenCV, Open3D, LangChain, SQL, MySQL, NoSQL, R, Bash, C++, C#, .Net Framework, ML.NET, Java, Spark, Hadoop, CUDA

MLOps: AWS, Azure, Weights&Biases, CometML, FastAPI, Kubernetes, Docker, CI/CD, Hopsworks, MLflow, Airflow

Transversal Skills: Leadership, Autonomy, Teamwork, Creativity, Adaptability, Curiosity, Critical Thinking

Certifications: IBM Data Analyst Professional Certificate, Responsive Web Design, SQL (Advanced)