VIRESH NAGOUDA

vnagouda@gmail.com | Languages: English, Hindi, Marathi, Japanese, Malayalam, Kannada, Tamil

Graduating June 2025 | Dual Degree: B.Eng (Hons) in Computer Engineering from APU, Malaysia and M.Eng from DMU, UK

PROFESSIONAL SUMMARY

Versatile Computer Engineering student with robust experience across AI, IoT, Cloud, and Big Data domains. Proven track record in delivering scalable solutions through embedded systems, cloud-first architectures, deep learning models, and data analytics. Adept in integrating edge-to-cloud pipelines using AWS, real-time AI inference systems, and intelligent dashboards. Passionate about building full-stack intelligent systems. Certified in Generative AI from Google x Kaggle.

KEY SKILLS

- AI/ML: TensorFlow, PyTorch, OpenCV, YOLOv8, Transfer Learning, CNNs, LLMs, RAG, Prompt Engineering
- IoT & Embedded: Raspberry Pi, Arduino, GPIO, MQTT, Serial Protocols, Sensor Fusion, Jetpack Compose
- Cloud & DevOps: AWS (EC2, S3, Lambda, Cognito, DynamoDB, IAM), Azure VMs, Firebase, REST APIs, Docker, GitHub Actions
- Data Science: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Keras, SQL, PostgreSQL, Azure SQL
- Big Data Tools: Google Cloud, Apache Kafka, Spark (basic), Airflow (basic)
- Programming: Python, Java, C++, Kotlin, JavaScript (Node.js), SQL
- Tools & Monitoring: Git, Postman, Figma, VS Code, Linux, Prometheus, Grafana

PROFESSIONAL EXPERIENCE

Intern - Tata Consultancy Services (TCS) | 10 Months

- Co-developed AquFish, an IoT-powered aquaculture system with real-time monitoring and predictive analytics.
- Integrated Raspberry Pi with AWS services using Amplify, Cognito, and DynamoDB for secure sensor-data pipelines.
- Designed and deployed AI models for fish health detection and growth prediction using TensorFlow on AWS EC2.
- Built cross-platform mobile app with Jetpack Compose to display real-time metrics for farmers.
- Performed EDA and built ML pipelines using scikit-learn for FCR prediction and sensor anomaly detection.
- Architected cost-optimized cloud infrastructure, achieving a 30% reduction in idle compute spend.

ACADEMIC PROJECTS

AI-Powered Environmental Monitoring Platform (GDP)

- Integrated IoT, AI, and 3D NeRF rendering for immersive environmental and fish health monitoring.
- Designed system with cloud-based APIs, TensorFlow inference engines, and AWS backend services.

Cafe Website with Multi-Cloud Architecture

- Developed role-based authentication and order dashboards using Firebase, Azure App Service, and Google Cloud.
- Captured analytics and visualized insights using Firebase DB and Google Analytics.

YOLOv8 Fish Detection Research

- Built a dataset for fish detection; performed bounding box refinement with OpenCV.
- Trained YOLOv8 segmentation model and applied motion filtering for real-time video inference.

Waste Management & Sustainability (BDA Project)

- Conducted regression and clustering analysis on global waste data using scikit-learn and seaborn.
- Created an interactive dashboard and deployed data pipelines in Google Colab and Azure SQL.

Digital Clock, Smoke Detection, and GUI Cafeteria System

- Simulated digital logic in Multisim; created a fire alarm system using Arduino MQ sensors.
- Built a Java Swing cafeteria interface with backend calculations and item tracking.

EDUCATION

Dual Degree (Expected June 2025)

- B.Eng (Hons) in Computer Engineering - Asia Pacific University (APU), Malaysia
- M.Eng (Hons) in Computer Engineering - De Montfort University (DMU), UK

EXTRACURRICULARS

- Participated in University Modelling Event | 3rd Place in Bowling & Cricket at APU Sports Carnival
- Enthusiast in Football, Badminton