Amal Varghese

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EDUCATION

Model Engineering College, Trikkakara   **Kerala, India**
Bachelor of Technology (GPA: 9.33)   *September 2023 – Present*

WORK EXPERIENCE

IEDC MEC   **Kerala, India**
Tech Team Member   *September 2020 – Present*
- Collaborated in the development and maintenance of EventSync, a comprehensive event management platform designed to manage multiple events with over 1000 users.
- Contributed to the development of the user interface and helped scale the website's architecture.

CSRBOX & IBM SkillsBuild   **Remote**
Web Development Intern   *June 2024 - August 2024*
- Selected for and completed a competitive 6-week web development internship program.
- Developed **BookBridge**, a full-featured, serverless book donation platform, as the primary internship project.

Wrench Solutions   **Kochi, Kerala**
Machine Learning Intern   *May 2025 – Present*
- Developing a predictive machine learning model to forecast epileptic seizures using EEG (Electroencephalogram) data.
- Applying fractal analysis techniques to extract complex features and patterns from EEG signals for model input.
- Researching and implementing various machine learning algorithms to optimize the model's predictive accuracy and performance.

PROJECTS

FoodVision   *May 2025*
- *Developed and trained multiple Convolutional Neural Network (CNN) architectures, including TinyVGG and VGG, to classify images from the Food101 dataset, achieving nearly 80% test accuracy.*
- *Fine-tuned a pre-built ResNet model, significantly improving performance to 97% test accuracy.*

Vitalia.ai   *November 2024 – January 2025*,
- *Collaborated in the creation of an AI-based health application that provides users with health scores and personalized diet recommendations.*
- *Contributed to the development of the user interface, database, and a machine learning model using XGBoost.*

RadNexus   *July 2025 – present*
- *Implementing a U-Net-based architecture to perform semantic segmentation on MRI images, precisely identifying and outlining specific regions of interest*
- *Curated and preprocessed BraTS dataset of MRI images to prepare for model training and validation.*

CarbonTally   *November 2024*
- *Co-developed an AI-based carbon emission tracker that generates carbon footprint details based on users' daily activities.*
- *Used XGBoost algorithm to develop an ML model to predict carbon emission.*

BookBridge   *July – 2025*
- *Developed a gamified eBook reading application using **React Native**, offering features such as progress tracking, badges, and interactive reading statistics.*
- *Integrated a fast, scalable SQL database to handle user data, reading sessions, and real-time updates.*

SKILLS & AWARDS

Skills: ReactJS, NextJS, React Native, FastAPI, PyTorch, numpy, matplotlib, Pandas, MySQL, MongoDB, ExpressJS

Awards: First Prize MECLABS 2024, Best Use of Data Award at Nasa Space Hack Kochi, Finalist IEEE .hack()24 at MACE