

# EMIL ALEXANDER GEORGE

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## EDUCATION

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|---|------|
| <b>1. Vellore Institute of Technology, Bhopal</b><br>Bachelor of Technology in Computer Science and Engineering(AIML)<br>CGPA: 7.02 | 2025 |
| <b>2. Marian Senior Secondary School, Kottayam</b><br>12 <sup>th</sup> Grade<br>Overall Percentage: 84%                             | 2021 |
| <b>3. Pallikoodam, Kottayam</b><br>10 <sup>th</sup> Grade<br>Overall Percentage: 84.2%  | 2018 |

## CORESKILLS

### Technical Skills:

#### Programming Languages

Java, MySQL, Flutter, Python

#### Software Tools

Tinkercad, Figma, Django framework

### Non-Technical Skills:

Time management, Adaptability, Teamwork  
Problem Solving, Communication, Leadership

## PROJECTS

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|---|-----------------------------|
| <b>1. Ultrasound Nerve Segmentation using Deep Learning</b><br><i>Python, TensorFlow, Keras</i><br><b>Role: Developer/Designer</b> <ul style="list-style-type: none"><li>- Designed and implemented a U-Net based convolutional neural network for semantic segmentation of ultrasound nerve images. Optimized training with learning rate scheduling, Adam optimizer, and early stopping to reduce overfitting.</li><li>- The model achieved an IoU score of 0.79 and a Dice Coefficient of 0.87, indicating high segmentation precision.</li></ul>  | <i>June 2024–April 2025</i> |
| <b>2. Predictive Inventory Management System</b><br><i>Python, TensorFlow, Keras, React</i><br><b>Role: Developer/Designer</b> <ul style="list-style-type: none"><li>- Built an end-to-end AI system to predict spare-parts stock-outs and optimize inventory for logistics operations.</li><li>- Implemented weekly demand forecasting using LSTM and stock-out risk prediction using XGBoost. Achieving an accuracy of ~99%.</li><li>- Engineered time-series features (rolling averages, lag features, seasonality) to improve prediction reliability.</li><li>- Developed a Flask REST API and React dashboard to deliver real-time risk alerts, forecasts and reorder recommendations.</li></ul> | <i>Nov 2025–Dec 2025</i>    |

### 3. Healthcare Research Assistant using RAG System

Dec 2025 – Jan 2026

*Python, LangChain, FAISS, Hugging Face*

#### **Role: Developer/Designer**

- Built a RAG-based system to answer queries strictly from healthcare research papers.
- Implemented PDF ingestion, text chunking, and semantic embeddings for accurate document retrieval.
- Enabled multi-document question answering with document-grounded responses to reduce hallucinations.
- Added safe fallbacks when information is not present in the source documents.

### INTERNSHIPS

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#### **1. Directorate of Technical Education, Trivandrum**

Sept 2025

#### **Role:** Full-Stack Developer

- Developed a Django based web system for centralized cadre and employee management across institutions. Designed relational models for cadres, designations and transfers using Django ORM. Implemented real-time vacancy tracking, role based authentication and MIS dashboards for data-driven administrative insights.

### CERTIFICATIONS

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Artificial Intelligence—Teachnook, IIT Bhubaneswar

*March 2023*

Industrial Application of Microcontroller—L&T Edutech

*Nov 2023*

Certified Cloud Practitioner – AWS

*July 2024*

### ACHIEVEMENTS AND RESPONSIBILITIES

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#### **Achievements**

- Represented the school in state-level athletics competitions for Shot Put and Javelin in 2017 and 2018
- Part of the school basketball team in CBSE Cluster meet and Sahodaya Inter-School tournaments, Champions of the inter-college Basketball 2024 season.

#### **Responsibilities**

- Main coordinator, Malayalam Club, VIT.
- Organized festive events and led various school and college event organizations, enhancing community engagement and collaboration. Coordinated and executed 10+ community service projects targeting the local problems.

### HOBBIES

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Sports, Event Management, Culinary Arts

### LANGUAGES

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English, Malayalam, Hindi, Tamil