europass Curriculum Vitae

PERSONAL INFORMATION

VIGNESH MURUGESAN

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GitHub | Medium Blog

PERSONAL STATEMENT

Results-driven Data Scientist with **2.5+ years** of experience in **AI, Machine Learning, and NLP across ESG, HRTech, Healthcare, Remote Sensing, and IIoT domains.** Proven skills in Python, TensorFlow, Scikit-learn, BERT, SHAP, Fairlearn, Streamlit, and Flask. Strong background in **model deployment, bias detection, and explainable AI.** Experienced in international collaboration (Europe, US), Agile environments, and full-stack AI development. Skilled in Power BI, SQL, and Docker.

CORE COMPETENCIES

- **Programming Languages:** Python, SQL, JavaScript
- **Machine Learning & AI:** Scikit-learn, TensorFlow, Keras, BERT, LSTM, Fairlearn, SHAP
- **Data Processing & Analysis:** Pandas, NumPy, OpenCV, Google Earth Engine
- **NLP & Transformers:** Hugging Face, MarianMT, FinBERT, TF-IDF
- **Visualization & BI Tools:** Power BI, Grafana, Matplotlib, Seaborn
- **Deployment & DevOps:** Streamlit, Flask, Docker, REST APIs, Git
- **Database & Data Integration:** MySQL, Excel, Web Scraping
- **Others:** Explainable AI, Model Bias Detection, Time Series Forecasting, Chatbot Development

WORK EXPERIENCE

May 2024 – Present

Data Scientist – Objectways Technology

- Architected and operationalized predictive models for talent analytics and ESG performance evaluation
- Automated ETL workflows for heterogeneous data ingestion and feature engineering
- Leveraged explainability frameworks (SHAP, Fairlearn) to mitigate algorithmic bias and enhance model transparency
- Partnered with cross-disciplinary teams to deploy AI services via Streamlit and Flask microservices

Aug 2023 – Apr 2024

Junior Data Scientist – Data Science & Analytics Centre

- Engineered AI pipelines for geospatial image classification, ESG metrics extraction, and healthcare text analytics
- Implemented convolutional and recurrent neural networks (CNN, LSTM) for pattern recognition and temporal data forecasting
- Developed interpretable machine learning solutions and interactive visualization dashboards
- Consistently delivered 91–92% predictive accuracy on enterprise-scale datasets

PROJECTS HIGHLIGHTS

- **Bias-Aware Resume Screening System:** Built ML pipeline for candidate screening using BERT and fairness tools (SHAP, Fairlearn); achieved 92% accuracy with bias detection in real-time predictions.
- **Land Use Classification from Satellite Images:** Trained deep learning models (VGG16, ResNet) on EuroSAT data; achieved 91% accuracy; visualized results using Earth Engine and OpenCV.
- **ESG Scoring Automation via NLP:** Designed AI-based scoring engine using FinBERT and NetworkX; deployed via Streamlit; adopted by 100+ EU-based clients for ESG evaluations.
- **Multilingual AI Chatbot for Healthcare:** Developed chatbot with MarianMT and Transformers; supported 5 languages, managed 500+ queries with 88% accuracy in patient communication.
- **Predictive Maintenance Dashboard for IIoT:** Applied LSTM and ARIMA for failure prediction; deployed live monitoring dashboard using Grafana; simulated 30% reduction in machine downtime.

INTERNHIPS

- **ML Engineer Intern** – TCS iON, Remote (India) | Aug 2022 – Sep 2022
- **Power BI Developer Intern** – We & Data, Chennai | Dec 2021

SKILL SET

Python | SQL | JavaScript | Scikit-learn | TensorFlow | Keras | BERT | LSTM | SHAP | Fairlearn | Power BI | Grafana | OpenCV | Google Earth Engine | Streamlit | Flask | Docker | REST APIs | Git | Web Scraping | Time Series Forecasting | Explainable AI | NLP | Satellite Image Processing | Chatbot Development | Problem Solving | Critical Thinking | Team Collaboration | Agile Methodologies | International Communication | Adaptability | Independent Working | Ethical AI Mindset | Time Management | Innovation-Driven | Attention to Detail | Cross-functional Coordination

EDUCATION

2024

- B.Tech in Artificial Intelligence & Data Science from Karpagam College of Engineering, Coimbatore, India

PUBLICATIONS

AI-Driven Groundwater Prediction| Journal of Soft Computing Paradigm, Vol. 6, Issue 1, 2024

- Applied machine learning and GIS for groundwater level forecasting
- Presented at 4th International Conference on AI, 5G Communication and Network Technologies | DOI: 10.36548/jscp.2024.1.005

CERTIFICATION

- Aug 2024 - BCG GenAi job stimulation (Forage) | Mar 2023 – Qlik Sense Business Analyst (QLIK)
- Mar 2023 – Fundamentals of Deep Learning (NVIDIA) | Mar 2022 – Fundamentals of Accelerated Data Science (NVIDIA)