Gokul Ram K

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Career Objective

AI and ML enthusiast proficient in **Python, Machine Learning, Deep Learning, and AWS Cloud Services**. Experienced in developing **AI-driven applications** such as **SamvidhaanAI** (legal chatbot using **RAG**) and **AgroAI** (plant disease detection with **TensorFlow** and **Gemini AI**). Skilled in **TensorFlow, Keras, Scikit-learn, SQL, Power BI**, and **Excel**. Passionate about leveraging technology and research to solve real-world problems.

Education

B.Tech in Computer Science and Engineering (AI and ML), Vellore Institute of Technology, Chennai — Jul 2023 – Jun 2027

- CGPA: 8.64/10.0 (**First Class** with **Distinction**)

AISSCE (12TH Grade), CS Academy, Erode — May 2022 – Mar 2023

- Percentage: 94.6% (**First Class** with **Distinction**)

AISSE (10TH Grade), The BVB, Erode — May 2020 – Mar 2021

- Percentage: 97.2% (**First Class** with **Honours**)

Internship Experience

Python Developer Intern, KRG Technologies Inc. - Chennai, Tamil Nadu (On-site) — Jun 2025 – Jul 2025

- Contributed to the development of an intelligent resume parsing platform leveraging **LLMs** and **OCR** to extract, structure, and match candidate data at scale.
- Designed and implemented scalable backend **APIs** and logic using **Python**, **Flask**, and **SQLite**.
- Integrated **Large Language Models (LLMs)** to transform unstructured resume content into structured, queryable data.
- Supported **OCR pipeline** development for parsing image-based and scanned resumes.
- Implemented advanced filtering and candidate ranking features using custom query logic.
- Enhanced data extraction reliability across diverse formats, reducing manual screening effort by over **70%**.

Publications

- U. Vignesh, R. Parvathi and K. Ram, "**Ensemble Deep Learning Model for Protein Secondary Structure Prediction Using NLP Metrics and Explainable AI,**" *Results in Engineering*, vol. 24, 2024, Art no. 103435, doi: 10.1016/j.rineng.2024.103435.
- G. K, R. Rajakumar, A. Ilavendhan, R. Padmanaban and K. Vijayaprabakaran, "**Enhancing Sentiment Analysis of Customer Reviews Using Deep Learning, Data Augmentation and Explainable AI,**" 2024 International Conference on Ubiquitous Intelligence and Systems (ICUIS), pp. 653–660, doi: 10.1109/ICUIS64676.2024.10866623.
- U. Vignesh, M. Monica, G. R. K. Kannan and K. Ghaayathri, "**Optimization of Cloud Based Monitoring Application in Software Engineering,**" 2024 International Conference on Advanced Computing and Reliable Systems (ICACRS), pp. 717–720, doi: 10.1109/ICACRS62842.2024.10841613.
- U. Vignesh, K. Ram and A. S. Al-Obaidi, "**Optimizing Resource Management with Edge and Network Processing for Disaster Response Using Insect Robot Swarms,**" in *Handbook of Research on Applications of AI, Digital Twin, and Internet of Things for Sustainable Development*, 2024, doi: 10.4018/979-8-3693-6150-4.ch003.
- U. Vignesh, K. M. Monica, and K. G. Ram, "**Data Analysis of Female Education in the Age of COVID-19: A Comprehensive Review,**" in *Progressive Computational Intelligence, Information Technology and Networking*, 2025, pp. 385–390.

Patents

- U. Vignesh and K. Gokul Ram, "**A System and Method for Emotions Reading Providing Path for Self-Care,**" Application No. 202441052499, **Published** (Publication No. 28/2024) on 12th July 2024, Indian Patent Office.
- U. Vignesh, Monica K M, and Gokul Ram K, "**Artificial Intelligence (AI) Based Smart Irrigation Controller System and Method,**" Application No. 202541038729, **Published** on 16th May 2025, Indian Patent Office.

Skills & Competencies

Programming & Web Development: Python 3.x, SQL, Java, C/C++, HTML, CSS, JavaScript, Node.js, Flask

Machine Learning & Deep Learning: TensorFlow, PyTorch, Keras, Scikit-learn, Pandas, Numpy

Data Analytics & Visualization: Power BI, Excel, Matplotlib, Seaborn, t-SNE

Cloud & Tools: AWS (EC2, S3, Lambda), Git, GitHub, Jupyter, Librosa, Tesseract OCR, StandardScaler

Soft Skills: Problem-Solving, Critical Thinking, Research-Oriented Approach, Communication, Team Collaboration

Certifications

- **AWS Certified Cloud Practitioner by AWS Training and Certification** | Link — Jan 2024
- **PCAP - Certified Associate Python Programmer by Python Institute** | Link — Jul 2023
- **Machine Learning with Python by IBM (Coursera)** | Link — Sep 2024
- **Data Analysis with Python by IBM (Coursera)** | Link — Jul 2024
- **Harnessing the Power of Data with Power BI by Microsoft (Coursera)** | Link — Jun 2024
- **Extract, Transform and Load Data in Power BI by Microsoft (Coursera)** | Link — Jun 2024

Projects

DeepShield: Deepfake Video Detection using Vision Transformer (ViT) Mar 2025 – Apr 2025

- Built a deepfake detection system using Vision Transformer (ViT), achieving **89.71%** training and **87.77%** validation accuracy.
- Preprocessed **400+ videos** into frame-level datasets and fine-tuned a **ViT (vit_base_patch16_224)** model for binary classification.
- Developed a **Flask** web application enabling real-time video uploads and **frame-by-frame deepfake prediction**, including performance visualization.

Domain: Deep Learning, Computer Vision
Technology Used: Python, PyTorch, Flask, OpenCV, scikit-learn, timm, torchvision

SamvidhaanAI: A Legal Companion Chatbot using RAG and Gemini AI Feb 2025 – Apr 2025

- Developed an AI-powered legal assistant to answer complex constitutional queries using **Retrieval-Augmented Generation (RAG)** techniques. Built a fast document retrieval system leveraging **LangChain** and **Google Gemini LLM** for for highly accurate responses.
- Deployed a scalable, user-centric application using **Streamlit** for real-time legal query handling and research.

Domain: Legal AI, Retrieval-Augmented Generation (RAG), Conversational AI
Technology Used: Python, Streamlit, LangChain, Google Gemini API, ChromaDB

AgroAI: AI-Powered Plant Disease Detection Web App Aug 2024 – Sep 2024

- Built a web application to detect plant diseases from images using **TensorFlow** models for accurate and rapid diagnosis. Integrated **Gemini AI** to generate human-readable disease insights, enhancing decision-making for users.
- Developed a responsive and intuitive frontend using **Flask, HTML, CSS (Bootstrap), and JavaScript** for seamless user interaction.

Domain: Machine Learning, Web Development, AI for Agriculture
Technology Used: Python, Flask, TensorFlow, HTML, CSS, JavaScript, Gemini AI