Bala Venkatesh

Data Scientist

Objective

I am a **results-driven Data Scientist** with a strong foundation in **AI, deep learning, and large-scale data processing**, dedicated to solving complex problems with data-driven solutions. Holding a **Master's in Data Science from London**, I specialize in **developing intelligent models, automating decision-making processes, and deriving actionable insights from vast datasets**.

With expertise in **generative AI, computer vision, and predictive analytics**, I have successfully built and deployed **AI-powered solutions** that drive business impact. My experience spans **data pipeline engineering, model optimization, and end-to-end AI system development**, ensuring scalable and high-performance implementations.

Beyond technical skills, I excel at **translating complex data into meaningful insights**, bridging the gap between **AI research and real-world applications** to drive innovation and business growth.

Work Experience

Project Name:- **TIP** | Role:- ML Security Engineer

Standard Chartered Bank | Sep 2023 - Present | India (Hybrid)

Worked on the **TIP (Threat Identification & Prevention)** project to **automate misconfiguration detection and remediation** in **Azure DevOps (ADO) pipelines**.Traditionally, teams had to manually validate ADO pipeline configs against TIP documents a slow, error-prone process.

We transformed this workflow using **Retrieval-Augmented Generation (RAG)** to **detect, explain, and fix security gaps automatically**.

- **vector DB** to store standard TIP controls as embeddings.
- **LLM (via LangChain)** to retrieve relevant controls based on current pipeline config
- **Prompt-engineered responses** to highlight misconfigurations with **exact file/line numbers** and **generate remediation steps**.
- **Automated the entire validation loop**, fully integrated into Azure DevOps, for **real-time security checks** during deployments.
- Designed a **modular class-based pipeline** for one-time control loading, chunking, embedding, and multiple-time retrieval.

This automation not only improved efficiency but also enhanced security posture, earning me the **Best Performer of the Year 2024** award at SCB Bank.

Personal Info

Personal Website

LinkedIn Profile

Phone: +91 9003812808

Email: venkateshpnk22@gmail.com

Skills

- ➢ **Python**
- ➢ **Generative AI**
- ➢ **Langchain,**
- ➢**Langgraph**
- ➢ **Agents Application**
- ➢ **CrewAI/Autogen**
- ➢ **Ollama**
- ➢ **Prompt Engineering**
- ➢ **Django Rest Framework,FastAPI**
- ➢ **Computer Vision**
- ➢ **Google Collab Notebook**
- ➢ **Azure Cloud**
- ➢ **AWS EC2, S3**

Project Management Tools

- ➢ **Jira**
- ➢ **Azure ADO**
- ➢ **Agile Methodology**

Project Name:- **Crop Doctor** | Role:- Lead Data Scientist

Bighaat PVT LTD | March 2022 - March 2023 | India (Contract Role-Remote)

Developed an AI-driven **Crop Disease Detection Application** to assist farmers in identifying plant diseases through **image-based analysis**. Farmers can capture and upload crop images via a mobile application, which then utilizes **deep learning models** to detect diseases, pinpoint affected areas, and provide actionable insights.

- **Designed and implemented** the **training pipeline** and curated the dataset for optimal model performance.
- **Preprocessed images** to enhance dataset quality and improve model accuracy.
- **Developed and fine-tuned deep learning models** for accurate disease detection.
- **Optimized model performance** by continuously updating it with new disease images, ensuring adaptability to real-world conditions.

Project Name:- **Medosys** | Role:- **Data Scientist**

AIBOTS Sdn Bhd | Oct 2020 - Jul 2021 | Johor Bahru (Malaysia)

We have developed a healthcare application that will help the doctor to prepare notes from the conversation. Patients can book an appointment through the mobile application. To implement the medical extraction model we gathered all the data and trained the NLP model.

- Responsible for organizing the team.
- Deliver the output to the client
- Make sure the team is aligned with the same task without blocking.

Project Name:- **Seismic AI (Anomaly Detection)** | Role:- **Data Scientist**

AIBOTS Sdn Bhd | Jan 2020 - Oct 2020 | Johor Bahru (Malaysia)

We have analyzed seismic data to detect an anomaly.Seismic data is a dominant source of information for the sub-surface and it is widely used to great effect in the hydrocarbon industry. This project is used by petrol companies. They have a huge amount of video of seismic data. We extracted all frames from those videos and detected anomaly pictures.

- Preprocess videos to prepare dataset
- Responsible to Build a model to train model
- Optimize the model file
- Setup input data pipeline

Project Name:- **Phraze** | Role:- **Data Scientist**

Spritle Software Pvt Ltd | Dec 2018 - Jan 2020 | Chennai (India)

Phraze is transforming the way physicians interact with the Electronic Medical Record. Using our automated clinical documentation technology, Phraze is disrupting the traditional clinic data collection model by providing a frictionless voice interface and an AI note writing scribe. Our AI scribe solution frees doctors to more thoroughly engage with their patients while improving the quality and quantity of clinical data collected.

- Responsible for gathering proper requirements from clients.
- Doing research work and implementation based on requirements.
- Responsible for doing peer code reviews. Provide feedback on the completeness, and correctness.

Amazon Books

Data Science and Business Intelligence: Advice from important Data Scientists around the World

KDnuggets Blogs

➢ 6 Easy steps to implement computer vision application using tensorflow.js

Top Coder Blogs

➢ Is data science just a rebranding of statistics?

➢ What is the OpenCV library and why do we need to know about it?

Medium Blogs

➢ Tensorflow Object Detection With Custom Objects

➢ Machine Learning Environment Setup within 10-min

➢ Building Chatbot app using DialogFlow

➢ What is Blockchain Technology and the future world of Web 3.0

➢ How to auto rotate the image using Deep learning!!!

Awards And Achievements

● Recognized as the **Best Performer of the Year 2024** by SCB Bank for outstanding contributions and excellence.

Project Name:- **Tools Monitoring** | Role:- **Data Scientist**

Spritle Software Pvt Ltd | Jul 2018 - Nov 2018 | Chennai (India)

This system will automatically detect the object name which is used in Singapore prison whenever the carpenter or other workers before going to prison, the system will detect that tool's name and save it so after completing their work at prison then it will verify those tools are back from prison.

Project Name:- **Moddo** | Role :- **Senior Software Developer**

Spritle Software Pvt Ltd | Jan 2018 - Jul 2018 | Chennai (India)

Moddo is the world leader in electronic commerce for professionals and companies of the footwear, component and accessory industry. The priced subscription provides access to trade offers, company reports, trade fairs calendar, information on fashion trends and products, news and 'Moddo Newsletter', and Internet services.

Project Name:- **Mack Lite** | Role:- **Software Developer**

Solverminds Technologies Pvt. Ltd | Jan 2017 - Dec 2017 | Chennai

Mack Lite is to maintain the shipping records which will be useful to take safety precautions in the future before the ship would meet an accident And ship inspection report. The main thing is to communicate the shipping form details to the Shore and Finally the form process ends in the Shore.

- Responsible for implementing accurate and reliable code according to the requirements specification.
- Debugging and troubleshooting code related issues/defects

Project Name:- **Time Transport System** | Role:- **Junior Software Developer**

Solverminds Technologies Pvt. Ltd | Oct 2016 - Dec 2017 | Chennai

The focus of this project is to automate the operations of the transport system. Tracking of vehicles and employee details becomes easier by using narrow search concepts. This software application is designed in such a manner that it can suitably meet the needs of all the transport companies. We can provide additional space for spare parts for all types of vehicles.

- Engaged with the Product Owner to understand the requirements and implement quality products.
- Designed and developed highly interactive and responsive web apps.

Education

MASTERS OF SCIENCE

Applied Data Science

Teesside University

United Kingdom
Sep 2021 – Sep 2022

BACHELOR OF ENGINEERING

Computer Science

Sri Ram Engineering College

India
Jul 2011 -Apr 2015

HIGHER SECONDARY SCHOOL

Computer Science
Sri Ganesar Higher Secondary School

India
Jun 2010 – May 2011