

# LAKESH KUMAR SURYADEVARA

Memphis, TN | 901-679-0389 | suryadevaralakesh99@gmail.com

## SKILLS

- **Programming Languages:** Python, R, Java, SQL, JavaScript, HTML5, CSS3
- **Frameworks & Libraries:** Flask, Streamlit, Pandas, NumPy, Prophet, TensorFlow, Keras, PyTorch, LangChain, FAISS, OpenCV
- **Machine Learning & Deep Learning:** Supervised & Unsupervised Learning (SVM, Random Forest, Gradient Boosting), CNN, Transfer Learning, Transformers (BERT, FinBERT)
- **Natural Language Processing:** Sentiment Analysis, Text Preprocessing, Tokenization, Text Classification, Retrieval-Augmented Generation, Grad-CAM
- **Time-Series Forecasting & Analytics:** Prophet with external regressors, anomaly detection, circuit-breaker logic
- **Data Visualization:** Power BI (DAX, Power Query), Tableau, Matplotlib, Plotly
- **Web Scraping & APIs:** BeautifulSoup, FRED API, Alpha Vantage, RSS feed ingestion, Google Sheets API, Twilio SMS API
- **Tools & Platforms:** Jupyter Notebook, Google Colab, Anaconda, Spyder, SQLite, Redis, Microsoft Excel, Cron scheduling

## PROFILE SUMMARY

Data Science graduate with expertise in machine learning, deep learning, and data visualization. Proficient in Python, PyTorch, Hugging Face Transformers, and Power BI, with hands-on experience in building AI models for NLP, computer vision, financial analysis, and energy consumption forecasting. Strong problem-solving skills with a focus on delivering scalable, data-driven solutions. Passionate about leveraging data to drive innovation and impact at scale in dynamic, fast-paced environments.

## EDUCATION

### UNIVERSITY OF MEMPHIS

Masters

Major in Data Science

Cumulative GPA: 3.5/4.0

Relevant Coursework: Python, Data Analysis, Data Mining ; Artificial Intelligence

Memphis, TN

Expected May 2025

### SRM UNIVERSITY

Bachelors

Major in Electronics and communication Engineering, minor in Python programming

Andhra Pradesh, INDIA

Jul 2017 - Dec 2021

## PROJECTS

### Economic Indicators Dashboard Using Power BI & FRED API

- I built a dynamic Power BI dashboard that brings together GDP, inflation, and interest-rate data so decision-makers can explore trends at a glance.
- Pulled live feeds from the FRED API and Google Sheets to ensure charts always reflected the latest information.
- Wrote custom DAX formulas and Power Query steps to clean and transform data, streamlining the creation of meaningful metrics.
- Balanced real-time responsiveness with rigorous data accuracy to deliver actionable macroeconomic insights.

### Climate Change Impact on Crop Yield Forecasting

- Developed and implemented predictive models in Python to forecast crop yields (maize, rice, and wheat) across Brazil, Canada, India, and the USA, integrating historical yield and temperature data.
- Designed intuitive, publication-ready visualizations in Matplotlib—clearly communicating trends, uncertainty intervals, and real data points to both technical and non-technical audiences.
- Automated and streamlined the entire data science workflow using Jupyter notebooks and custom scripts, from data cleaning to model training and result presentation.
- Translated complex model outputs into actionable insights for agricultural planning, supporting climate adaptation strategies and evidence-based decision-making.

### Brain Tumor Classification from MRI Scans

- I created a deep learning pipeline from scratch to classify brain tumors in MRI scans, working with over 7,000 images that included multiple tumor types and healthy brains.
- I handled every step—cleaning and preparing the data, visualizing patterns, and augmenting images—to help my model learn as much as possible and handle real-world variability.

- I designed, built, and trained my own Convolutional Neural Network (CNN) using TensorFlow/Keras, achieving 99% accuracy in distinguishing between different tumors and healthy scans.
- To make sure the results would genuinely help in a clinical setting, I carefully analyzed predictions using class-wise metrics and confusion matrices, interpreting outcomes so the solution could make a real difference for medical professionals.

### **Resilient Energy Consumption Forecasting**

- I built an interactive web app that forecasts energy consumption using Prophet and ARIMA, and added my own circuit breaker and fallback logic so it always gives a safe, sensible result—even if the main model fails.
- I took care of every step in the pipeline myself, from cleaning the data and detecting anomalies to engineering time-based features, training the models, and building out a Streamlit dashboard that makes everything easy to explore.
- I made sure the app is user-friendly and transparent by showing clear performance metrics (like MAE and RMSE) and letting users see and tweak how forecasts are made, because I believe machine learning should be understandable and actionable.
- I wrote and tested custom reliability features, so the app can handle bad data or weird predictions without crashing—something I see as essential for any tool that's meant to work in the real world.

### **Real-Time Financial News Sentiment Dashboard**

- I designed and developed a Real-Time Financial News Sentiment Dashboard to make advanced NLP insights accessible to everyone, from investors to everyday users.
- I integrated NewsAPI for live, personalized financial news and used the FinBERT transformer model so users could instantly see the sentiment behind headlines.
- I put a big focus on user experience, creating a clean, intuitive interface and automating everything from news fetching to sentiment scoring and CSV export—with clear error messages when needed.
- This project really boosted my skills in NLP, data visualization, and rapid prototyping, and I'm proud that I delivered a modular, deployment-ready app that helps people make smarter, more confident decisions with data.

### **Black Friday Deals Agent**

- I built a full-stack web app with Python and Flask to make tracking prices and catching deals across Amazon, Best Buy, and Walmart totally automatic—so I never had to worry about missing out.
- I added predictive analytics with NumPy, using simple linear regression to forecast tomorrow's prices based on actual trends I collected—giving myself (and others) a real advantage during big sales.
- I set up automated notifications via email and SMS (using SMTP and Twilio), so as soon as a product hit my target price, I'd get an instant alert—no more refreshing pages or constant checking.
- I designed a clean, Bootstrap-based interface and managed all price data with SQLite, making it easy for anyone (not just me!) to track deals, analyze trends, and make smarter buying decisions.

### **AI Investment Research Assistant**

- I created an AI tool that helps users quickly extract and analyze company financial data from 10-K PDFs or public APIs.
- I built the NLP pipeline with Hugging Face and LangChain to handle PDF text extraction, smart search (FAISS), and question-answering.
- I designed an easy-to-use Streamlit app for uploading reports or fetching data by ticker, with instant answers and clear feedback.
- I integrated Alpha Vantage for live company data and built a full Retrieval-Augmented Generation (RAG) workflow for fast, reliable responses.

## **CERTIFICATIONS**

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- Python Data Analysis
- R for Data Science: Analysis and Visualization
- Networking Basics by CISCO

## **WORK EXPERIENCE**

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### **Full Stack Developer**

FITPAA, Hyderabad, India

**March 2022 – March 2023**

- Assisted in developing web applications using Java for the backend and HTML, CSS, and JavaScript for the frontend.
- Helped design and build responsive user interfaces to improve accessibility and user experience.
- Supported integration of front-end features with backend services, ensuring smooth data flow.
- Collaborated with senior developers and team members to solve problems and deliver project requirements.
- Gained hands-on experience in the software development lifecycle and working in a collaborative environment.