

# BALAKUMAR S

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## SUMMARY

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Motivated Machine Learning Developer with strong foundations in Python, deep learning, computer vision, and NLP. Experienced in building end-to-end ML models, data preprocessing, and model optimization using TensorFlow, PyTorch, Scikit-learn, and related tools. Skilled in problem-solving and practical implementation of ML workflows. Seeking an opportunity to apply technical skills, contribute to real-world AI solutions, and grow as an ML engineer.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C, SQL, MongoDB

**Deep Learning Frameworks:** TensorFlow, PyTorch, Keras

**Libraries & Tools:** NumPy, Pandas, Scikit-learn, OpenCV, NLTK, Git, Docker

## PROJECTS

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### PHARMTRACK AI

Aug 2025 – Sep 2025

*Deep Learning Project*

*Python, TensorFlow, OpenCV*

an AI-powered pharmaceutical tracking and verification system to ensure drug authenticity and safety

- Implemented machine learning models to detect counterfeit medicines using product metadata and historical verification patterns
- Designed an end-to-end pipeline for tracking medicines from manufacturer to consumer to improve transparency

### DREAM LENS AI

Aug 2025 – Sep 2025

*Natural Language Processing*

*Python, Flask, NLTK, Hugging Face*

- Built an **NLP-driven dream interpretation model** that analyzes user-submitted dreams to extract meaning
- Implemented a **semantic understanding pipeline** using transformers to identify emotions, themes, and patterns in dreams
- Focused on improving user mental well-being through self-reflection and emotional understanding

### DEMAND FORECASTING

Aug 2025 – Sep 2025

*Dashboard*

*Power BI*

- Developed an interactive Power BI dashboard to analyze historical sales data and forecast future product demand in retail stores
- Implemented time-series forecasting techniques (like moving averages and exponential smoothing) to identify sales trends and seasonality
- Optimized dashboard performance through efficient data modeling and DAX calculations

## EXPERIENCE

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### Machine learning Intern

Sep 2025 – Oct 2025

*Carrer ladder*

*Coimbatore*

- Conducted research on reinforcement learning algorithms for robotics
- Implemented and evaluated deep RL models using PyTorch and RLlib
- Presented findings at weekly research meetings

## EDUCATION

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**Sri Shakthi institute of engineering and technology**

Coimbatore

*B.Tech in Computer Science, Artificial Intelligence and Data Science*

Sep 2023 – present

## CERTIFICATIONS

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- Full stack development certificate
- machine learning development certificate
- TensorFlow Developer Certificate