

# Vishnu Padmakumar

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## Education

### Bachelor of Technology in Computer Science and Engineering with Specialization in Data Science

Vellore Institute of Technology, Vellore, Tamil Nadu, India

CGPA: 8.81 / 10.0

### Higher Secondary Education (CBSE) 2019 – 2021

New Millennium School, Bahrain

Percentage: 95.6%

## Skills

- Programming Languages:** Java, Python, C/C++, HTML, CSS, JavaScript
- Frameworks and Libraries:** Spring Boot, Java Microservices, Python Microservices (FastAPI, Flask), TensorFlow, PyTorch, React.js
- Databases:** MySQL, PostgreSQL, MongoDB
- AI/ML Techniques:** LLMs, GANs, Neural Networks, Feature Engineering, Data Preprocessing
- Data Analytics and Visualization:** Power BI, EDA, Data Cleaning, Data Wrangling
- Version Control:** Git, GitHub, GitLab
- Soft Skills:** Leadership, Team Collaboration, Effective Communication

## Projects

- NeuroOptions: AI-Powered Options Pricing System** Dec 2024 – Apr 2025
  - Developed a KDTree-based deep learning model, achieving 95% accuracy and 23% improvement over Black-Scholes.
  - Integrated Monte Carlo, VADER sentiment, and fuzzy logic to enhance market responsiveness by 35%.
  - Reduced RMSE and MAE via hybrid modeling and parameter tuning.
  - Built for fintech use cases enabling real-time, sentiment-aware options pricing.
- Portfolio Risk Analysis Platform** Feb – Apr 2025
  - Built a containerized Python–Streamlit app to simulate risk and forecast returns with 85% input accuracy.
  - Ran 10,000+ Monte Carlo simulations to visualize volatility and outcome probabilities.
  - Used Docker and GitLab CI/CD to cut deployment time by 40% and ensure consistency.
  - Enabled real-time tuning and visualization, boosting decision speed by 60%.
- LearnSphere – Adaptive Learning Platform** Aug – Oct 2023
  - Created an interactive learning app using Llama 2 7B with RAG, improving engagement by 35%.

- Applied spaced repetition, boosting retention by 28%.
- Built personalized content recommendations using RAG to fetch and generate contextually relevant learning materials.

- PREPAMIGO – Data Preprocessing Tool**

Mar 2023

- Designed a tool that cut preprocessing time for data scientists by 90%.
- Made preprocessing accessible to beginners with a user-friendly interface.
- Improved model performance by 15% via automated feature engineering.

## Professional Experience

- Tata Consultancy Services – Software Developer** Feb 2025 – Apr 2025
  - Developed scalable Java Spring Boot microservices for backend systems, implementing REST APIs and service-to-service communication.
  - Built Python microservices using FastAPI for data processing and analytics workflows.
  - Containerized microservices using Docker, enabling consistent deployments across environments.
  - Integrated GitLab CI/CD pipelines, reducing deployment errors by 60% and improving delivery speed by 25%.
  - Collaborated on a synthetic data pipeline to enhance AI model training while ensuring data privacy.
- Hilal Computers (Norththek) – Tech Support Intern** Aug–Sep 2023
  - Streamlined Dell support tasks, increasing process efficiency by 25%.
  - Resolved 50+ technical issues, maintaining 95% customer satisfaction.
  - Created a knowledge base, cutting average issue resolution time by 15 minutes.
- Finlatics – Business Analyst Experience**
  - Designed 5 Power BI dashboards, improving data visualization efficiency by 40%.
  - Analyzed financial data to develop a 20% cost reduction strategy.
  - Built predictive models with 85% accuracy over 6 months.
- ROBOVITICS CLUB, VIT – AI/ML Member**
  - Built a Robowars bot; placed top-3 out of 15 teams by optimizing sensors and control algorithms.
  - Conducted workshops for 30+ students; 80% pursued further learning in robotics.
  - Contributed to AI/ML projects applying core concepts to practical challenges.

## Additional Information

**Languages:** English, Tamil, Malayalam, Spanish, Hindi

**Certifications:** Machine Learning A-Z™: AI, Python & R (2023)