

# THILAK L

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 [Thilak L](#) |  [Thilak L](#)

Coimbatore, Tamil Nadu - 641020, India

## OBJECTIVE

Seeking a challenging position in Data Science to leverage my expertise in Data Modeling and Processing. Aiming to contribute to innovative projects at the intersection of Machine Learning and Deep Learning and Passionate about leveraging data, optimization algorithms, and to implement design impactful solutions for real-world challenges.


## EXPERIENCE

- **IIM Bodh Gaya**  May 2025 - June 2025  
*Research Intern* Remote
  - Developed an oil price forecasting pipeline using machine learning models (SVR, LightGBM, LSTM, GRU) optimized with metaheuristic algorithms such as PSO, Firefly, and Bayesian Optimization for robust prediction of crude oil prices using historical SARIMA-adjusted data.
  - Automated model evaluation using metrics such as RMSE, Mean Absolute Error (MAE), and Mean Absolute Percentage Error (MAPE), with results saved for statistical comparison and visualization.
  - Achieved significant improvements in forecasting accuracy, reaching up to 98.9% coefficient of determination ( $R^2$ ), and reduced Root Mean Square Error (RMSE) through advanced optimization strategies.
- **RBG AI**  November 2024 - June 2025  
*AI/ML Development Intern* Coimbatore, India
  - Designed and integrated React-based dynamic form builder allowing custom sections, questions, and media uploads for inspections.
  - Implemented secure authentication and session management using Django's built-in auth system with CSRF protection and RESTful APIs and Contributed to end-to-end development, database design
  - Collaborated in an agile team environment, utilizing Git branches and version control for feature development and merge management.

## EDUCATION

- **Amrita Vishwa Vidyapeetham** June 2022 - June 2027  
*Integrated M.Sc. Data Science* Coimbatore, India
  - GPA: 8.05/10.00
- **Vidyaa Vikas International School** 2022  
*Higher Secondary Education* Coimbatore, India
  - Percentage: 73.4%
- **Vidyaa Vikas International School** 2020  
*Secondary Education* Coimbatore, India
  - Percentage: 82.2%


## PROJECTS

- **Android Malware Analysis (CICAndMal2020)** Jan 2024 – Apr 2024  
*Tools: Python, Scikit-Learn, LightGBM, XGBoost, Random Forest, SVM, SHAP, LIME, Pandas, NumPy*
  - Developed a complete Android malware detection pipeline integrating static and dynamic analysis, using logcat, memory, API, and network activity features from the CCCS-CIC-AndMal2020 dataset.
  - Implemented and evaluated ML models including LightGBM, XGBoost, Random Forest, and SVM; achieved a peak accuracy of **98.77%** with LightGBM on the AndMal2020 dataset.
  - Benchmarked the framework across CIC-MalDroid2020 and Drebin datasets to validate robustness under multi-dataset scenarios.
- **Smart Study Helper – NLP-Based Learning Support System** Dec 2024  
*Tools: Python, Django, NLP, Transformers, NLTK, PyPDF2, HTML/CSS* 
  - Developed an AI-powered study assistant with NLP-driven text summarization and adaptive learning support designed for students with ADHD and learning disabilities.
  - Implemented PDF text extraction, long-text chunking, and transformer-based summarization to process and simplify large study materials.
  - Created interactive visual outputs such as key-point highlights and structured summaries to improve comprehension and learning efficiency.
  - Developed modular back-end components for easy integration with future features such as speech-to-text, quiz generation, and learning progress tracking.

SKILLS

- **Programming Languages:** Python, C++,R,MATLAB
- **Web Technologies:** HTML, CSS, React.js, Django (REST Framework)
- **Database Systems:** PostgreSQL,MySQL
- **Data Science & Machine Learning:** Feature Engineering, Ensemble Methods ,Time-Series Forecasting
- **Specialized Area:** Cybersecurity, Educational Assistive AI
- **Mathematical & Statistical Tools:** Linear Algebra, Probability & Statistics, Regression Analysis
- **Other Tools & Technologies:** Git/Github, Adobe Premiere Pro
- **Research Skills:** Benchmarking



HONORS AND AWARDS

- **3rd Place — Code O Clock Hackathon** September 2025  
*SaaS22 × Coimbatore Institute of Technology* 
  - Achieved **3rd place** among 92 teams (340+ participants) at the 24-hour Code O Clock Hackathon.
  - Developed **Mentora**, an AI-powered platform that converts a single text prompt into a complete multi-format course with AI-monitored quizzes.
  - Built using a modern AI tech stack including LangChain, ChromaDB, and Google’s Gemini API.
  - Collaborated with a 4-member team to design, build, and deliver the end-to-end solution within 24 hours.
- **1st Place — Bug Hub Technical Event & Runner-Up (Non-Technical Event)** March 2025  
*Sri Ramakrishna Engineering College*
  - Secured **1st place** in the Bug Hub technical event and achieved **Runner-Up** in a non-technical competition.
  - Participated in a highly engaging environment featuring innovative challenges, collaborative problem-solving, and technical learning opportunities.
  - Worked closely with teammate **GOKUL S**, whose support and teamwork were instrumental to the success.

LEADERSHIP EXPERIENCE

- **Team Lead — Online Banking System Project** Nov 2024  
*Institution/Organization Name*
  - Led a 3-member team in building a secure and user-friendly Online Banking System with a strong focus on industry-standard security practices.
  - Oversaw end-to-end development including database design, backend logic, and front-end integration using Python, Django, PostgreSQL, HTML, and CSS.
  - Implemented custom authentication with role-based access to enhance security and ensure safe transaction handling.
  - Collaborated closely with teammates **Subramanian G** and **Raghul A R** to deliver a robust platform emphasizing reliability and user-centric design.

VOLUNTEER EXPERIENCE

- **Video Editor [Team Media Club]** June 2022 - August 2024  
*Amrita Vishwa Vidyapeetham* 
  - Captured and edited videos of college events
  - Helped distribute content through official social media channels
  - Developed skills in video editing and digital marketing as part of the club
- **National Service Scheme (NSS)** March 2024  
*Amrita Vishwa Vidyapeetham* 
  - NSS Special Camp – Government School, Chinnaiyagoundenpudur, Ettimadai Village, Coimbatore
  - Engaged in educational and environmental activities, including school improvement, awareness campaigns, and student mentoring.
  - Assisted in organizing health and hygiene awareness sessions for the school students.

CERTIFICATIONS

- **Course:** [Neural Networks and Deep Learning](#)  
**Certifying Body:** Coursera July 2025

ADDITIONAL INFORMATION

**Languages:** English (Advanced), Tamil (Fluent), Telugu (Intermediate)  
**Interests:** Video Editing, Fitness & Gym, Travelling , Learning new technology