Abijith Ramaswamy Babu

+1 (850) 284-6729 | abijith2402@gmail.com | LinkedIn

SUMMARY

Information Technology Graduate with hands-on experience in machine learning, deep learning, and database management. Proficient in Python programming and in Data Analytical tools like PLSQL. Experienced in developing secure and scalable systems, including adversarial defense mechanisms in federated learning systems and medical image classification using ResNets, Vision Transformers, and Swin Transformers. Practical internship experience in EEG-based silent speech recognition and expertise in tools such as TensorFlow, MySQL, MongoDB, and Google Colab. Strong technical skills in data preprocessing, model evaluation, data analytics and AI workflow automation.

EDUCATION

Florida State University, Tallahassee, FL   **Aug 2024 – May 2026**
Master of Science in Information Technology.
- **CGPA:** 4.0/4.0
- **Coursework**: Information Architecture, Advance Data Science, Management of Information Organizations, Web Usability

PSG College of Technology, Coimbatore, TN   **Aug 2020 – May 2024**
Bachelor of Technology in Information Technology
- **CGPA:** 3.25/4.0
- **Coursework:** Data Structures, Object-Oriented Programming, Design and Analysis of Algorithms, Database Management Systems, Operating Systems, Computer Networks, Web Technologies, Data Mining, Artificial Intelligence, Machine Learning, Cyber Security, Wireless Networks, Cryptography, Cloud Computing, Software Engineering, Linux Internals, Internet of Things, Graphics and Multimedia, Secure Coding, Software Testing.

TECHNICAL SKILLS

- **Programming Languages:** Python
- **Front-End Development:** HTML, CSS, XML
- **Database Management:** MongoDB, SQL
- **Cloud and CRM Skills:** Salesforce Einstein (Prediction Builder, Discovery, Analytics), Salesforce CRM
- **AI and Data Skills:** Predictive Analysis, Machine Learning, Deep Learning Models, Data Visualization
- **Tools & IDEs:** Visual Studio Code, Google Colab, Android Studio, MS Word, MS PowerPoint, Canva
- **Networking Tools:** Wireshark, Cisco Packet Tracer

PROFESSIONAL EXPERIENCE

Project Intern – Prashan Medical Technologies, Coimbatore   **Dec 2022 – Apr 2023**
- Conducted 150+ EEG signal recordings, processed and extracted features for silent speech recognition, achieving an accuracy of 85% using machine learning algorithms like LSTM and Bayesian LSTM.
- Developed a system for decoding EEG signals into text or commands, improving accessibility for patients with speech disabilities by 40% efficiency in real-time processing.
- Collaborated with a team of 5 members to design and test machine learning models, ensuring robust feature classification and system reliability for diverse applications.

ACADEMIC PROJECTS

Federated Learning Project - Adversarial Attacks and Defenses
Tech Stack: Python, PyTorch, TensorFlow, Federated Learning Frameworks
- Explored vulnerabilities in federated learning systems by implementing and analyzing prominent adversarial attack scenarios using Python and PyTorch.
- Developed innovative defense strategies, strengthening model robustness against data poisoning by 30%.
- Validated solutions across diverse datasets, ensuring adaptability and reliability in real-world applications.

Deep Learning Project - Comparative Analysis of ResNets, Vision Transformers, and Swin Transformers for Medical Image Classification

Tech Stack: Python, TensorFlow, Keras, NumPy, Pandas, Matplotlib

- Analyzed ResNets, ViTs, and Swin Transformers for Alzheimer's MRI image classification across four diagnostic types.
- Preprocessed datasets and trained the models using TensorFlow, achieving increased efficiency and performance via hyperparameter tuning.
- Achieved best results with ResNet 152V2 (98% training accuracy, 92% test F1 score), when trained on basis of metrics like precision, recall, and loss.
- Visualized attention maps and derived confusion matrices that provide insights into model's decision-making and overall performance.

Hotel Management System

Tech Stack: Python, MySQL, PyCharm, StreamLit, Oracle

- Engineered a hotel management system to streamline reservations, room allocations, and billing processes, managing over 100 daily transactions.
- Designed and implemented a MySQL database handling 1,000+ records for efficient data retrieval and storage.

CERTIFICATIONS

- Salesforce Certified AI Associate.
- Salesforce Certified AI Specialist.

LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

- Member of the Cyber Security Club, PSG College of Technology; actively participated in cybersecurity workshops.
- Competed in a Hackathon organized by Caterpillar, focusing on innovative problem-solving.
- Associate Manager for Student Events and Workshops, The Student Union, PSG College of Technology (2023–2024).
- Front Desk In-Charge and Student Coordinator (Radio Jockey) for PSG Tech Radio Hub (2021–2023).