

Abzana Varhath

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PROFILE

Final-year Data Science student with hands-on machine learning engineering and analytics experience. Built production-grade computer vision system achieving 99.47% classification accuracy and healthcare BI dashboards uncovering cost-saving insights from 10,000+ patient records. NPTEL Elite-certified (Top 5% nationally) in Python for Data Science. Proven ability to deliver under competitive pressure through hackathons (Runner-Up TechThrone, 3rd SRM Game-A-Thon). Skilled in end-to-end ML lifecycle: data collection, preprocessing, model training (TensorFlow, XGBoost), validation, and stakeholder communication via interactive dashboards. Seeking to leverage specialized knowledge in machine learning and data visualization to solve real-world business challenges.

EDUCATION

Manikam Ramaswami College of Arts & Science <i>B.Sc. Computer Science (Data Science & Analytics)</i> , CGPA: 8.0	Madurai, Tamil Nadu July 2023 – April 2026
<ul style="list-style-type: none">Relevant Coursework: Machine Learning, Statistical Analysis, Database Management, Data Structures & Algorithms	

EXPERIENCE

Web Development Intern <i>APM Kingstrack India Private Limited</i>	May 2025 Chennai
<ul style="list-style-type: none">Contributed to the full Software Development Life Cycle (SDLC) for Trendella, a responsive e-commerce site for a women's clothing brand; participated in requirement gathering, design, development, deployment, and client deliveryBuilt dynamic, cross-browser-compatible UI using HTML, CSS, JavaScript, and Bootstrap, achieving a 90+ Lighthouse performance scoreEngineered modular JavaScript components for interactive features including carousels, multi-filter search, and real-time form validation, boosting user engagementCollaborated with backend developers in an Agile environment; participated in code reviews and debugging sessions, resolving 15+ functional issues pre-production and maintaining code quality	

PROJECTS

SEA-SURE - Smart Seafood Freshness Monitoring System <i>TensorFlow, Keras, XGBoost</i>	Academic
<ul style="list-style-type: none">Built a CNN classifier (99.47% accuracy) and XGBoost regressor ($R^2 = 0.804$) for species and freshness prediction using TensorFlow, Keras, ResNet50, and XGBoostPerformed ETL-style image preprocessing and augmentation on 10,000+ images using OpenCV and Pandas, expanding training data by 3×Conducted feature engineering and ranked features via XGBoost importance; selected top 15 features to reduce inference latency by 25%Tuned hyperparameters with GridSearchCV (5-fold CV), improving F1-score from 0.91 to 0.97; evaluated models using ROC-AUC, precision-recall curves, and confusion matrices	

Healthcare Data Analysis <i>Python, Power BI, Pandas</i>	TSM Datathon
<ul style="list-style-type: none">Conducted exploratory data analysis (EDA) on patient records to uncover trends in demographics, treatment outcomes, and resource utilizationDesigned and deployed interactive dashboards using Power BI and Python (Pandas, Matplotlib) to visualize 12+ key performance indicators (KPIs) for healthcare administrators	

Pothole Detection App (Road Reboot) <i>OpenCV, TensorFlow</i>	CUMTA Project Contributor
<ul style="list-style-type: none">Developing an AI-powered mobile application using OpenCV and TensorFlow for real-time pothole detection, aimed at improving urban road safety and infrastructure monitoring	

TECHNICAL SKILLS

Programming: Python, R, SQL, Java, C

Web Development: HTML, CSS, JavaScript

Machine Learning & AI: TensorFlow, Keras, Scikit-learn, XGBoost, OpenCV, CNN, Classification, Regression, Hyperparameter Tuning, Feature Engineering, Model Evaluation

Data Analysis & BI: SQL (MySQL, PostgreSQL), Power BI, Tableau, Advanced Excel, EDA, Data Wrangling, ETL, Data Visualization (Matplotlib, Seaborn), Statistical Hypothesis Testing

Tools & Platforms: Git, GitHub, Jupyter Notebooks, VS Code, Agile/Scrum, N8N Workflow Automation, Figma

Databases: MySQL, PostgreSQL, SQLite, RDBMS Design

HACKATHONS & AWARDS

TechThrone 2k25 Hackathon – Runner-Up

January 2025

- Led a 4-member team in a 12-hour sprint to build MechConnect, a real-time mechanic-driver matching platform among 50+ teams; earned internship offer and leadership recognition

SRM Game-A-Thon 2025 – 3rd Place

December 2024

- Built an Educational Gamification Platform using frontend among 80+ teams; recognized for innovation in edtech

TSM Intra-College Datathon 2025 – 5th Place

November 2024

- Analyzed healthcare data with Python and Power BI as Team Crazy Coders among 25+ teams, competing with postgraduate students

CERTIFICATIONS

Python for Data Science: NPTEL (IIT) Elite Silver Certificate (2024)

Create and Use Analytics Reports with Power BI: Microsoft (2024)

Database Management System: NPTEL (IIT) (2024)

Basics of R Programming: MRCAS EDGE – Grade A++ (Certificate of Merit) (2024)

English Language Communication: Cambridge via Naan Mudhalvan (2024)