

# AISHWARYA R

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## EDUCATION

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<b>SSN College of Engineering</b> <i>Bachelor of Technology in Information Technology</i>	<i>Jul 2021 – Jun 2025</i>
<b>Relevant Courses:</b> Data Structures & Algorithms, Database Management Systems, Computer Networks, Probability & Statistics, Object Oriented Programming, Design patterns, Pattern Recognition and Machine Learning	<i>CGPA: 8.16</i>
<b>Padma Seshadri Bala Bhavan Senior Secondary School</b> <i>Computer Science</i>	<i>Jun 2006 – May 2021</i>
	<i>Grade: 95.2%</i>

## EXPERIENCE

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<b>Barclays Global Service Centre Private Limited</b> <i>Technology Developer</i>	<i>Jul 2025 - Present</i>
<ul style="list-style-type: none"><li>Engineering an AI-powered intelligent document automation platform integrating template parsing, LLM-based semantic key mapping, and context-aware text generation, auto-populating Excel templates using internal API/DB/JSON data and eliminating manual reporting workflows across business units.</li><li>Designed supporting automation modules using Python, Autosys, REST services, and version-controlled workflow orchestration.</li></ul>	

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<b>Jithwa Solutions</b> <i>AI/ML Engineer Intern</i>	<i>Mar 2024 - Jun 2024</i>
<ul style="list-style-type: none"><li>Developed a RAG-based legal assistant integrating PDFChat document querying and a BERT-based legal case classifier, combining document ingestion with FAISS-powered vector retrieval and an LLM-driven chat interface for grounded legal reasoning.</li><li>Achieved &lt;2s response latency and 90%+ retrieval precision on large PDF legal corpora, enabling reliable context-aware legal guidance using Python, LangChain, FAISS, Streamlit, and BERT.</li></ul>	

## PROJECTS

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<b>Vision Transformers for Bharatanatyam Video Classification</b>	<i>Jan 2024 – Apr 2024</i>
<ul style="list-style-type: none"><li>Engineered a full-stack video analytics system featuring an inference backend built in PyTorch with REST endpoints and a lightweight Streamlit interface for dataset upload, playback, and prediction visualization.</li><li>Achieved 97.3% accuracy using DeiT-Tiny + Lion + LSTM, outperforming ViT-Base by 3.7x in inference speed and 4x memory efficiency; evaluated using precision/recall/F1 metrics and confusion matrices.</li></ul>	
<b>Flight Delay Prediction</b>	 <i>Code Aug 2023 – Sept 2023</i>
<ul style="list-style-type: none"><li>Built a deployable machine learning engine exposed via a Python-based API with a simple web UI dashboard for interactive predictions and feature importance analysis.</li><li>Achieved 0.93 F1 score and 11.98-minute MAE using Random Forest and XGBoost models trained on large-scale US flight datasets.</li></ul>	

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<b>Nexus - Social Media Application</b>	 <i>Code Mar 2023 – Jun 2023</i>
<ul style="list-style-type: none"><li>Developed a dynamic social media platform enabling users to connect, share posts, and engage with content.</li><li>Used Django framework for backend development and HTML/CSS/JS for creating a customisable and engaging user interface, SQLite3 for efficient data storage</li><li>Implemented graph data structures to model relationships and incorporated search algorithms for user suggestions.</li></ul>	

## SELECTED PUBLICATIONS

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- Rainfall Forecasting Model for Amaravathi Basin Using Machine Learning Approach**  
Published in *Journal of the Institution of Engineers (India): Series A*, Springer, 2025
- Comparative Analysis of Transformer-Based Models for Bail Prediction Using HLDC Dataset**  
Presented at IEEE Region 10 Technical Conference (TENCON) 2025, Singapore  
★ Best Paper Award
- Blood Pressure Estimation from Photoplethysmography Signals: An EdgeML Approach**  
Presented at International Conference on Artificial Intelligence and Computational Technologies in Applications (AICTA) 2024, India

## **SKILLS**

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**Languages:** Python, C++ ,SQL , LATEX, Bash

**Frameworks and Libraries :** Streamlit, Transformers, LangChain, FAISS, PyTorch, Scikit-learn, Pandas, Numpy, Matplotlib, MediaPipe, OpenCV, VGG16, Tesseract, Tkinter, Git, HTML, CSS, JavaScript, Autosys, Docker

## **ACHIEVEMENTS AND EXTRA-CURRICULARS**

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- Among top 35 teams selected for Smart India Hackathon 2023 regional level.
- High commendation award in CHINMUN 2019 & PSBBMUN 2019.
- First place in the city level rhapsody music competition conducted by Madras Youth Coir (2018).