JAYAKISHAN B

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PROFESSIONAL SUMMARY

Pre-final year B.Tech IT student passionate about building intelligent, production-ready systems with a strong focus on Agentic AI Systems. Experienced in developing explainable ML models and scalable full-stack applications across healthcare, cybersecurity, and automation domains. Recognized through national-level hackathons and real-world project deployments. Actively seeking opportunities to apply AI/ML engineering skills, contribute meaningfully, and grow within collaborative, high-impact teams.

EDUCATIONAL QUALIFICATION

Sri Ramakrishna Engineering College, Coimbatore - B.Tech Information Technology 2023 - 2027
CGPA: 8.44/10 (till 5th semester)

SBOA Matriculation and Higher Secondary School, Coimbatore - HSC 2022 - 2023
Percentage: 81.9%

SBOA Matriculation and Higher Secondary School, Coimbatore - SSLC 2020 - 2021
Percentage: 100%

EXPERIENCES

AI and Cloud Intern – Edunet Foundation and IBM SkillsBuild Sept 2025 - Oct 2025

- Completed an intensive 4-week virtual internship, finishing 8 structured AI certification modules covering Machine Learning, Deep Learning, NLP, Computer Vision, Prompt tuning, AI ethics and Model execution workflows.
- Built a capstone project (CareerForge – AI-powered ATS resume builder) integrating LLM-based resume optimization with a full-stack application using Next.js and FastAPI.

Mobile App Development Intern – Resilience Business Grids LLP Dec 2024 - Jun 2025

- Built and deployed an AI-powered multimodal chatbot using Flutter and Dart, supporting text, voice, image, and video inputs; **served 200+ active users** and **handled 100+ concurrent queries**, reducing manual support workload by **30%** through automated intent classification and routing.
- Designed and implemented a scalable backend architecture with REST APIs, Firebase authentication, and data persistence; achieved **35% reduction in system latency** and **40% improvement in application performance**, enabling production-ready cross-platform deployment.

PROJECTS

AI-Powered ICU Patient Flow Coordinator *GE HealthCare - Consultancy Project*

- Designed and deployed an intelligent ICU bed allocation system as team lead using ensemble ML models, achieving **78% accuracy** with Logistic Regression (L2) after rigorous 5-fold cross-validation across **5,000 patient records**.
- Improved triage decision **accuracy by 25-30%** and reduced approval bottlenecks through predictive modeling of patient admission priority using key clinical features (lactate, GCS, vitals).
- Developed full-stack web application with FastAPI backend, SQLite database and Next.js 15 frontend with TypeScript, enabling real-time patient flow predictions and actionable insights for clinical staff.
- Technologies: Next.js 15, TypeScript, FastAPI, Logistic Regression (L2), Scikit-learn, Pandas, NumPy, SQLite.

SREC Utsava 2026 - Symposium Platform *College Project*

- Led a 2-member team in the development of a production-ready full-stack platform with integrated ICICI Bank payment gateway, user authentication and event management, successfully **serving 12,000+ visitors with 98,000+ page views**.
- Architected responsive UI/UX with server-side rendering for optimal performance and SEO, achieving **90+ Lighthouse scores** across all metrics.
- Technologies: Next.js 15, TypeScript, Tailwind CSS, Supabase (PostgreSQL), Framer Motion, Bank API.

AI-Driven Drug Discovery and Genomic Analysis Framework *InnoHack'26 VIT Vellore - Finalist*

- Coordinated a 4-member multidisciplinary team to build explainable AI framework for drug-target interaction prediction and genomic variant analysis, advancing from 900+ teams to top 21 finalists in AI/ML track.
- Engineered ensemble ML pipeline combining Random Forest, XGBoost and Gradient Boosting with RAG-based LLM explanations and SHAP-driven feature importance analysis for interpretable predictions from scientific literature retrieval.
- Technologies: Python, FastAPI, Next.js 15, TypeScript, Random Forest, XGBoost, Gradient Boosting, SHAP, RAG, PCA, K-means.

Explainable AI Driven MLOps framework for Fair and Inclusive Loan Advisory *Team Project*

- Spearheaded a 3-member team to build an end-to-end MLOps framework for fair and inclusive loan advisory, achieving **30–40% improvement in user trust** via SHAP-based explanations and counterfactual analysis; paper **accepted for publication in IJARCS (Vol. 17, Issue 1, 2026)**, scheduled for 25 February 2026 release.
- Architected **dual-model production pipeline** with automated retraining, fairness monitoring (Demographic Parity, Equal Opportunity), drift detection using KL Divergence and RAG-based AI assistant for dynamic RBI guidelines and government scheme recommendations.
- Technologies: Next.js 15, TypeScript, FastAPI, Python, XGBoost, SHAP, SMOTE, RAG, Supabase, MLOps.

AI-Driven Nocturnal Elephant Detection and Deterrence System *Hackathon Winner - 25000 INR*

- Deployed a YOLOv8n-based wildlife detection system on Raspberry Pi achieving **90%+ accuracy in low-light conditions**, with automated deterrence mechanisms including buzzer alerts and range-based LED warning indicators.
- Integrated multilingual SMS and voice call alert system via Twilio API with real-time monitoring dashboard for forest department coordination, enabling immediate response to wildlife intrusions.
- Technologies: YOLOv8n, Python, OpenCV, Raspberry Pi, IoT sensors, Twilio API, Buzzer, LED indicators.

AI-Powered Cyber Triage System for Real-Time Threat Detection *Team Project*

- Directed a 3-member team to engineer real-time DoS/DDoS detection and prevention system using Random Forest classifier **achieving 80% accuracy**, with automated IP blocking/unblocking via Windows Firewall API, reducing incident **response time by 40%**.
- Engineered a network traffic analysis pipeline using Wireshark/TShark packet capture with Flask backend and SQLite database for storing attack patterns, coupled with alert generation for suspicious activity detection.
- Technologies: Python, Random Forest, Flask, Scapy, Wireshark, TShark, Windows Firewall API, SQLite, HTML, CSS.

HACKATHONS & AWARDS

- Finalist – InnoHack'26 (VIT Vellore) – Selected among top 21 teams from 225+ nationwide entries in AI/ML track.
- Certificate of Recognition – GE HealthCare Consultancy – AI-powered ICU Patient Flow Coordinator.
- 1st Place – Human-Animal Conflict Hackathon – AI-Driven Nocturnal Elephant Detection and Deterrence System (Rs.25000 cash prize).
- Winner – Innovators Icon Award, Hack24 – AI-powered Lung Disease Prediction System.
- 1st Place – Protovision, Technovate 2025 – AI-Powered Cyber Triage System for Real-Time Threat Detection.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C, C++, SQL, TypeScript, JavaScript.
- **AI & Machine Learning:** Machine Learning, Deep Learning, Computer Vision, Explainable AI (SHAP), RAG Systems, Agentic AI, MLOps.
- **Web & Backend Development:** FastAPI, Flask, Node.js, REST APIs, Next.js, React, Tailwind CSS.
- **Databases & Cloud:** Supabase (PostgreSQL), MySQL, SQLite.
- **DevOps & Tools:** Docker, Git, GitHub, CI/CD, Linux.
- **Frameworks & Libraries:** TensorFlow, PyTorch, Scikit-learn, YOLOv8, OpenCV.

CO-CURRICULAR ACTIVITIES

- Executive Member – Research and Innovation for Student Empowerment (RAISE), SREC.
- Executive Member – Computer Society of India (CSI) Student Branch, SREC.
- Executive Co-Chairperson – Road Safety Vertical, YI Yuva Club, SREC (2024-2025).
- Active Member – Phorartz Club (Photography & Arts), SREC.