Sarika S Shirolkar

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Experience

Junior Machine Learning Engineer — AI Workflow Automation Oct 2025 – Present

- Currrently developing an AI voice scheduling agent for a France-based dental clinic using Retell AI, n8n, and Google Calendar, enabling automated appointment booking, rescheduling, cancellation, and availability checks via phone calls with real-time calendar updates.
- Developed ML models (scikit-learn) to predict key business drivers from historical data, supporting forecasting and decision-making for U.S. stakeholders.
- Built automated data pipelines (web scraping + SQL) to collect, clean, and preprocess structured datasets for ML and analytics workflows.
- Owned end-to-end ML execution: problem framing, feature engineering, model training, evaluation (metrics, error analysis), and delivery into dashboards. Collaborated with stakeholders and engineers to translate ambiguous requirements into measurable objectives and deployable solutions.

Software Engineer (Cloud Applications) — AI Workflow Automation Mar 2025 – Sep 2025

- Designed, deployed, and maintained Python applications on Microsoft Azure (Linux VMs, App Services), focusing on scalability, reliability, and secure configuration.
- Improved development velocity by ˜40% using AI-assisted development with manual code reviews, testing, and performance optimization. Standardized deployment practices (environment configuration, logging/monitoring basics, rollback-friendly releases) to reduce operational issues and improve stability.
- Collaborated cross-functionally to align technical execution with stakeholder timelines and evolving requirements in a fast-paced environment.

AI & ML Intern — Bharat Electronics Limited Jul 2025 – Sep 2025

- Developed and evaluated computer vision systems using deep learning, emphasizing accuracy, robustness, and reproducible experimentation.
- Performed dataset preprocessing, training, validation, and error analysis to improve reliability under real-world conditions.

Project Intern — Institute of Electrical and Electronics Engineers IAMPro'25 Apr 2025 – Sep 2025

Projects

- **Secure Object Identification for Autonomous Systems (IEEE Publication):** Designed and evaluated a YOLOv8-based real-time object detection system under adverse weather conditions. Conducted benchmarking, error analysis, and performance validation; research published in an IEEE International Conference. [GitHub]
- **AI Voice Scheduling Agent for Dental Clinics:** Developed an end-to-end AI voice agent using Retell AI, n8n, and Google Calendar to autonomously book, reschedule, cancel appointments, and check availability through phone calls. Implemented structured AI outputs, webhook-driven workflows, and real-time calendar synchronization. [Verification_Link]
- **Business Risk Prediction Model:** Built a supervised ML model on historical transactional-style data to predict high-risk records. Performed feature engineering, handled class imbalance, evaluated with precision/recall and PR-focused analysis, and optimized thresholds for business impact.[Github]
- **AI Research Agent (LangChain + Streamlit):** Built an AI research assistant that autonomously gathers sources, summarizes findings, and generates structured outputs with tool integration for faster research workflows. [GitHub]
- **Object Identification for Naval Platforms (Confidential):** Developed deep learning–based object recognition and classification models for maritime assets using a restricted dataset (confidential; no public repository).
- **AI Agent for LinkedIn Content Automation (n8n):** Built an automated workflow that generates and schedules context-aware LinkedIn posts by orchestrating LLM prompts, content validation steps, and publishing triggers.[Check out company linkedin!]
- **Resume Builder Deployment (Azure App Service):** Deployed a resume-builder application on Azure App Services with scalable hosting and cloud-ready configuration. [GitHub]
- **Crater Detection Model:** Developed a computer vision model to detect lunar/Martian craters and evaluate detection performance on image datasets. [GitHub]
- **Netflix Power BI Dashboard:** Created an interactive Power BI dashboard for exploratory analysis and visualization, enabling insight discovery through filtered views and KPIs.

Technical Skills

Programming: Python, SQL, Java, C; object-oriented programming.
AI/ML: Classification, regression, clustering, feature engineering, model evaluation, error analysis; basic experimentation and benchmarking.
GenAI / LLM Tooling: LangChain; prompt-driven workflows; LLM-based prototyping.
Deep Learning & CV: CNNs, YOLOv8, Transformers, OpenCV; object detection and image classification.
Libraries/Frameworks: scikit-learn, TensorFlow, Keras, Pandas, NumPy, Matplotlib, Streamlit, BeautifulSoup.
Cloud & Deployment: Microsoft Azure (VMs, App Services, Blob Storage), Linux; deployment-ready configuration.
Data & Visualization: Data cleaning, preprocessing, analytics; dashboards (Power BI, Tableau).
Databases: MySQL, MongoDB.
Tools: Git, VS Code, Jupyter Notebook, Google Colab, Kaggle.
Operating Systems: Windows, Linux, macOS.

Leadership, Training & Certifications

- **IEEE Publication:** First author of a peer-reviewed paper published at an IEEE International Conference on applied object detection for autonomous systems.
- **Chair, IEEE CIS SVIT:** Led ML workshops and hackathons; mentored peers on applied ML pipelines and experimentation.
- **Academic Excellence:** Ranked 2nd (Sem 6, 2024–2025), Ranked 9th (Sem 2, 2022–2023), Ranked 10th (Sem 4, 2023–2024).
- **U&I Team Leader:** Raised `10,000; taught Mathematics, Science, and soft skills to underprivileged communities.
- **Training:** Data Analytics and Machine Learning (Supervised/Unsupervised).
- **Infosys Pragati Cohort Intern:** 12-week mentorship for women in tech (Apr–Jul 2025).
- **Ideathon:** 3rd Place, E-Cell SVIT (21 Oct 2022).

Education

B.E (CSE — AI & ML) 2026	Visvesvaraya Technological University - Sai Vidya Institute of Technology	[CGPA 9.1]
Science (PCMC, CBSE) 2022	Kendriya Vidyalaya CRPF	[77.7%]
10th Grade 2020	St. John's School Kempapura	[96.1%]