

# Sharanya Vadakapur

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<https://github.com/S0307-shar>

## Professional Experience

### Workcuit AI

Feb 2025 - Present

#### Product Engineer

- Led the full development and deployment of an AI-driven hospitality management platform, guiding the product from concept to launch and ensuring a seamless experience for users across multiple properties.
- Improved system performance by 20% by designing and integrating RESTful APIs that enabled reliable, real-time communication between front-end applications and backend services.
- Strengthened platform scalability and reduced query latency by 15% through the optimization of Angular components, Firebase functions, and Firestore database structures.
- Streamlined engineering workflows and automated key processes, resulting in a 30% boost in development velocity and faster feature delivery.
- Elevated user satisfaction scores by 15% during beta testing by conducting thorough UI/UX evaluations, gathering user feedback, and refining features to match real-world needs.
- Reduced deployment timelines by 20% by managing cloud infrastructure on Firebase and Render and building efficient CI/CD pipelines to support rapid releases.
- Enhanced cross-team collaboration and onboarding efficiency by 25% through the creation of clear technical documentation, API references, and detailed product roadmaps.
- Delivered actionable business intelligence by building AI-powered dashboards and generative assistants that improved decision-making speed and operational efficiency for clients.
- Partnered directly with company founders on long-term product strategy and go-to-market planning, ensuring engineering priorities aligned with business goals and user demands.
- Supported customer adoption and long-term engagement by conducting on-site deployments, delivering product training sessions, and providing ongoing technical support.

### Purdue University Northwest

Jan 2023 - Dec 2024

#### Research and Student Assistant

- Advanced supply chain optimization research by conducting statistical analysis on efficiency ratios, OEE, and reject rates, enabling accurate KPI modeling.
- Enabled real-time scenario simulation by designing and validating digital twin data models for industrial applications.
- Delivered actionable insights faster by cleaning, transforming, and visualizing large datasets using Python.
- Prepared technical documentation, progress reports, and presentation materials that enhanced transparency and supported successful project reviews.
- Strengthened research credibility by publishing applied research on AI-driven decision automation and presenting findings to academic and industry audiences.
- Ensured 100% compliance with university standards by managing confidential student records and supporting course registrations.
- Increased student engagement by 20% by organizing academic events and workshops that enhanced departmental visibility.
- Streamlined communication and coordination between students and faculty by facilitating meetings and schedules.

### IBM - Kyndryl

Dec 2021 - Dec 2022

#### Associate Technical Engineer

- Managed day-to-day operations of 5,000+ Linux and Unix servers, maintaining high availability and ensuring SLA compliance with company security and performance standards.
- Implemented automated monitoring and alerting using shell scripting and cron jobs, reducing incident response times by 30% and improving service reliability.
- Supported application deployments and infrastructure upgrades across production and staging environments, minimizing downtime through meticulous planning and rollback strategies.
- Resolved complex system and network issues in collaboration with cross-functional teams, achieving consistent root-cause resolutions and uninterrupted service continuity.
- Conducted system audits, patch management, and backup verifications to maintain data integrity, strengthen security, and meet compliance requirements.
- Created detailed configuration documentation, maintenance schedules, and troubleshooting guides, improving onboarding efficiency and operational consistency.
- Enhanced incident detection by analyzing performance metrics and logs to identify bottlenecks early, leading to proactive issue prevention.
- Developed reusable automation scripts to translate recurring operational needs into efficient workflows, significantly reducing backlog volumes.

- Lowered repeat incident rates by 15% through comprehensive root-cause analysis and implementation of long-term corrective actions.
- Improved infrastructure resilience and reduced unplanned downtime through proactive performance tuning and capacity planning using NMON analysis.

## Oakspro Software Solutions

Aug 2019 - Nov 2019

### Web Developer Intern

- Developed a data-driven e-commerce platform, integrating cloud deployment for improved transaction speed.
- Collaborated with cross-functional teams to transform business requirements into product features, enhancing user experience and increasing customer satisfaction

## Projects

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### AI CCTV Footage Analyzer

- Designed a vision-in-the-loop pipeline (frame sampling 'Gemini 2.0 analysis' entity/description extraction 'JSON logging') that turns hours of video into searchable, machine-readable events.

### Profit Prediction Using Machine Learning

- Built a reusable machine learning pipeline to analyze financial data and predict profit using regression models and Pycaret, improving predictive accuracy by 97% and identifying key drivers of ROI across product segments.
- Delivered actionable business insights by analyzing the impact of discounts, sales channels, and product categories on profitability, enabling data-driven strategies for margin optimization.

### Object and Motion Detection using Machine Learning

- Collected, cleaned and analyzed qualitative data using OpenCV, Pandas, Scikit-learn, to train a motion detection model with TensorFlow for accurate real-time object detection.
- This system, when applied to sports scenarios, reduced decision-making time by 18% through automated detection and analysis of key motion events.

### Bankruptcy Prediction using Logistic Regression

- Developed a bankruptcy prediction model using logistic regression and ONNX.js, enabling real-time financial analysis through a web interface.
- Implemented key financial indicators such as Net Income to Total Assets, ROA, Debt Ratio, and more, to predict bankruptcy probability based on input data.

## Education

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### Purdue University Northwest

Dec 2024

M.S., Computer and Information Technology

- **GPA:** 3.70/4.0
- **Coursework:** Machine Learning, Statistics, Quality Assurance, Database Management Systems, Information Assurance, Computer Networks, Project Management, Supply Chain Management, Data Analytics, Marketing Management

## Certification

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- **Oracle Cloud Data Management:** Oracle University
- **Google Project Management:** Coursera
- **Python:** Udemy
- **Azure Synapse Analytics:** Microsoft
- **Emotional Intelligence:** LinkedIn
- **GenAI powered data analytics:** Forage

## Skills

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- **Programming & Frameworks:** Python, JavaScript/TypeScript, Angular, Node.js
- **Database & Cloud:** Google Cloud Platform (Firebase, Big Query), MySQL, Render, AWS (EC2, S3 basics), Azure
- **DevOps & Automation:** CI/CD pipelines, Shell scripting, Cron jobs, Version control (Git)
- **Data Analytics:** Power BI, Tableau, SQL, Pandas, Excel
- **System Administration:** Linux/Unix environments, Performance tuning (NMON), Monitoring & security hardening
- **Product & Delivery Skills:** Requirements gathering, Product road-mapping, Agile/Scrum practices, Technical documentation (Jira, Confluence), User training & onboarding, Cross-functional collaboration
- **Soft Skills:** Strategic problem-solving, Attention to detail, Adaptability, Client communication, Process improvement, Leadership in small-team environments