SOHAM HARIPRASAD KATKAR

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EDUCATION

University of Maryland, Baltimore County (UMBC)   **Dec 2025**
Master's, Information Systems
GPA: 3.62/4.0

WORK EXPERIENCE

HSBC Technology India   **Aug 2021-Dec 2023**
Software Engineer   *Pune*
- Boosted system efficiency by 15% and reduced errors by 20% by developing scalable, multi-threaded **C++** data models, optimizing **SQL** queries (**15% faster execution**), and designing secure microservices using proven design patterns to handle high-volume global transactions.
- Resolved 200+ real-time **JIRA** issues as part of a 10-member team, delivering the highest number of fixes through collaborative debugging, root cause analysis, and rigorous peer reviews (**15% fewer defects**). Ensured smooth operations of the Global Payment System by leveraging **Kubernetes, Docker, Jenkins CI/CD, Splunk,** and **GitHub** for version control and robust data processing.
- Strengthened delivery efficiency by collaborating cross-functional teams namely QA, DevOps, **ML**, and business analysts, aligning technical solutions with stakeholder needs, and driving successful sprint outcomes. Designed and executed JUnit test cases to increase backend test coverage by 35%, cutting post-deployment defects, while automating server installations and Jenkins jobs with shell scripting (**40% setup time saved**).
- Developed proof-of-concept LLM-based monitoring tool for payment transaction log analysis, implementing prompt chaining techniques to automate incident summarization and exploring anomaly detection approaches, demonstrating potential for reducing manual operations overhead.

Incentius Solution Ltd.   **Feb 2021-Jul 2021**
Data Analyst Intern   *Pune*
- Streamlined sales data processing across multiple European countries by collaborating with a regional analytics team, building automated pipelines, and consolidating country-specific databases into a centralized system using **SQL** and internal ETL tools, **cutting processing time by 25%** and enabling faster insights for managers.
- Developed scalable, rule-based data workflows with Python for transformation and SQL for aggregation/validation, efficiently cleaning, matching, and categorizing raw sales data for performance-based incentives covering 100,000+ representatives, improving speed and accuracy by 30%.
- Enhanced stakeholder reporting and engagement by designing interactive dashboards in Power BI and Excel, increasing report usage by 50% and improving decision-making transparency across regional leadership.
- Evaluated advanced reporting automation by exploring natural language generation (NLG) techniques using rule-based templates and prompt design, laying groundwork for AI-driven stakeholder communications.

ACADEMIC PROJECT EXPERIENCE

Full-Stack Document Automation App (React.js, Python, Flask, Vercel)   **Oct 2025**
- Developed a full-stack web application to automate document creation by parsing '.docx' templates for placeholders and guiding users through a conversational form
- Built a Python/Flask REST API to handle file parsing, regex-based placeholder extraction, and document generation, deploying it as a web service on Render
- Designed a responsive React.js frontend to manage file uploads and the dynamic question and answer flow, deploying it independently to Vercel with CI/CD

Full-Stack Tic-Tac-Toe Game, React.js, Express.js, PostgreSQL   **Sept 2025**
- Developed complete web application with **React.js** frontend, **Express.js** and **Node.js** API backend, and **PostgreSQL** database featuring **CRUD** operations, game persistence, and real-time player statistics, implementing win detection algorithms and comprehensive game state management.
- Implemented scalable architecture with normalized database schema, automated testing, responsive design using HTML5, Tailwind **CSS**, and **GitHub** integration, showcasing modern full-stack development practices and professional code organization.

TECHNICAL SKILLS & CERTIFICATIONS

- **Programming Skills**: HTML, CSS, Java, Springboot, JavaScript, Linux, Unix Shell Script, C++, Apache SPARK, Apache Kafka, Python, PL/SQL, SQL, PostgreSQL, Node.js, React.js
- **Tools & Workflow:** GitHub, Agile methodology, CI/CD pipelines, JIRA, SDLC, VS Code, MLOps
- **Prompt Engineering & AI/NLP Tools**: GPT-4/5, OpenAI API, , Copilot, BERT, T5, Claude Sonnet 4
- **Statistical Modeling:** Numpy, Pandas, Keras, TensorFlow, Pytorch, Feature Engineering, scikit learn
- **ML Ops & Production:** GitHub Actions, Airflow, Prometheus, Jenkins
- **Cloud Computing Technologies**: Azure, AWS, Lambda, Docker, Jenkins, Kubernetes
- **Certifications**: Oracle Database SQL Certified Associate