MRUNAL VINAY JADHAV

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EDUCATION

Masters in Engineering Management, PSDS (Data Science), University of Maryland, Baltimore County *December 2025*
Advanced Project Management, Data Management, Data Analysis & Machine Learning, Big Data Processing

Bachelors in Computer Engineering, Savitribai Phule Pune University, India *July 2021*
Data Structures & Algorithms, SW Engineering & Project Management, SW Testing & Quality Assurance, Artificial Intelligence & Robotics

SKILLS

Data, Programming & Analytical: Python, R, SQL, Tableau, Microsoft Power BI, C++, Java, HTML, CSS, JavaScript, MySQL, MongoDB, Oracle PL/SQL, RDBMS, Data Analytics & Visualization, Business Intelligence, Data Validation, Process Optimization, GIT, Process Improvement
Product & Project Management: MS Office: Word, Excel, PowerPoint, SharePoint, Smartsheet, Power Automate, Outlook, Data-Driven Decision Making, Strategic Planning, Problem-Solving, Stakeholder Communication, Cross-Functional Collaboration, Detail-Oriented, Critical Thinking
Software Testing & Development: JIRA, Mobile Application Testing, Functional Testing, Regression Testing, Automation Testing, Defect Management, Agile, Scrum, Core Banking, Test Planning, Selenium, Confluence, Micro Focus ALM, SDLC, SAP ERP
Certifications: Java Programming, MySQL Basics, Python, Software Testing, Fundamentals of Digital Marketing by Google, Published Research (IJIRCCE paper published for Clustering Analytics in Smart-Grid Datasets)

PROFESSIONAL EXPERIENCE

Rohde & Schwarz | Quality Assurance Intern (Jun-Aug) / IT Applications Intern (Sept-Dec) | *Columbia, Maryland* *June 2025 - December 2025*

- Improved quality process efficiency by implementing real-time data analysis and workflow automation solutions, reducing manual errors and enabling faster, more informed decision-making across quality assurance operations.
- Designed, built, and maintained interactive dashboards using tools like Excel, Power BI, Smartsheet and data visualization platforms, empowering service and quality teams to monitor KPIs, identify trends, and improve data-driven decisions with greater accuracy.
- Automated numerous reporting workflows, including monthly performance summaries, resulting in a reduction in data preparation time and an improvement in turnaround for critical decision-making reports.
- Extracted, cleaned, and analyzed calibration records from SAP ERP, identifying metrology inconsistencies and driving an increase in data accuracy, while ensuring compliance with internal quality protocols and audit requirements.
- Implemented IT workflows using Power Automate, SharePoint for applications, documenting processes and developed web pages for MVIX displays using HTML, CSS, and JavaScript, improving system functionality, and enhancing operational efficiency within IT Applications

Accenture | Quality Engineering Analyst | Core Banking | *Pune, India* *August 2021 - December 2023*

- Directed the strategic management of testing activities across the Software Testing Life Cycle, focusing on Mobile Application Testing, and boosting overall testing efficiency by 25%.
- Coordinated creating and documenting Business Process Flow, Functional, and Knowledge Transfer Documents, improving knowledge transfer and process clarity by 30%.
- Elevated Test Script Design, Test Scenarios, Execution Reviews, Test Data Preparation, Defect Management, and Log Analysis, yielding a 20% reduction in defect rates and expediting resolution by 35% through proficient use of JIRA and Confluence.
- Streamlined the structured onboarding framework and refined daily status reporting, accelerating new team member ramp-up time by 40%. Facilitated productive collaboration with Development and Business teams to enhance functional comprehension, improving defect detection rates by 15%, while consistently demonstrating strong interpersonal and communication abilities.

Simba Developers | Project Management Intern | *Pune, India* *February 2021 - May 2021*

- Orchestrated the management of project timelines and facilitated coordination among cross-functional teams for 2+ ongoing projects, achieving a 95% adherence to deadlines and streamlining resource allocation to drive optimal results.
- Assessed project workflows to identify key inefficiencies and implement targeted process improvements, resulting in a 25% reduction in bottlenecks and an 18% increase in overall team productivity and project efficiency.

ACADEMIC PROJECTS (github.com/MrunalJadhav2025)

Cyber Security Threat Detection Using Big Data| UMBC

- Constructed a scalable threat detection system using CICIoT2023 data, attaining 86.8% accuracy in classifying multi-class IoT attacks (DDoS, Mirai, Recon) with XGBoost and PySpark, while ensuring high throughput and real-time detection capabilities.
- Curated a balanced training dataset using SMOTE to address class imbalance, and reduced dimensionality with Random Forest-based feature selection, cutting noise by 30%, boosting model precision, and improving scalability across diverse IoT device types.
- Accelerated big data processing by utilizing Apache Spark, improving pipeline runtime by 40% on high-volume traffic data.

Employee Departure Prediction Using Semi-Supervised Learning

- Formulated a semi-supervised learning approach that grew label coverage by 70% using KMeans clustering, SME input, and label propagation on unlabeled data, enabling broader employee insights and improving attrition signal detection across diverse units.
- Reduced dimensionality by compressing 27 features into 18 using PCA, minimizing noise and enhancing model training efficiency while retaining high-impact predictive features, thus facilitating faster convergence and promoting model generalizability in complex datasets.
- Validated the LR model through statistical evaluation, capturing key attrition triggers with 80% predictive accuracy in low-label conditions.

Credit Card Fraud Detection System

- Designed and deployed a Python-driven fraud detection system utilizing Machine Learning techniques like Local Outlier Factor and Isolation Forest to enhance anomaly detection and identify suspicious activities.
- Carried out rigorous data cleaning, preprocessing, and feature engineering, achieving 99% classification accuracy with minimal false positives. Set a minimum transaction threshold to detect fraud and address discrepancies in user categories and payment details.
- Enhanced fraud detection performance through rigorous cross-validation and hyperparameter tuning, seamlessly integrating models into operational systems to enable fraud prevention strategies and provide actionable insights for efficient risk mitigation.