

CHINMAY ROZEKAR

Wilsonville, OR | chinmay.rozekar@gmail.com | linkedin.com/in/chinmayrozekar | github.com/chinmayrozekar

PROFESSIONAL SUMMARY

Software QA Engineer with 5+ years of experience driving validation quality and automation efficiency in complex SoC and EDA environments. Proficient in Python, TCL, and Linux-based regression frameworks, with a track record of improving coverage, reducing test time, and enhancing system reliability through data-driven analysis.

TECHNICAL SKILLS

Languages: Shell, Python, TCL/TK, SVRF, C/C++, Perl

AI/ML: TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, OpenCV, Transformers, RAG Pipelines

CI/CD: GitHub, CVS, Gitlab, Atlassian BitBucket, Jira, Confluence, Docker

Development Methodologies: Agile, Scrum, Kanban, Waterfall

QA & Verification: Test Automation, DRC, LVS, Calibre PERC, Regression Validation, Rule Debugging

Hardware Validation: SoC Validation, JTAG, PCIe, System-Level Testing

Statistical Analysis: SPC, Cp/Cpk, Box Plots, Parametric Yield Analysis

Certifications: Calibre PERC (Siemens Software, 2024); Advanced PERC Rule Writing (Siemens Software, 2025)

EXPERIENCE

Software QA Engineer <i>Siemens EDA (Mentor Graphics)</i>	July 2024 – Present Wilsonville, OR
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- Developed Python and TCL automation scripts to validate reliability verification flows (ESD, EOS, topology-based checks), integrating with Calibre PERC regression framework and reducing manual QA time by 20%.
- Designed scalable test infrastructure to execute sequential and parallel rule validation across multi-threaded and distributed MTFlex environments, ensuring stability under system-level stress conditions.
- Built KPI dashboards and parsing utilities (Python, pandas, matplotlib) to monitor runtime, memory, and functional coverage across regression cycles, enabling data-driven release decisions.
- Collaborated with development teams to debug tool behavior, automate rule-sequencing verification, and identify edge-case failures at OS and process-integration level.
- Partnered with global QA teams to standardize test templates, version control (Git), and CI workflows for cross-product quality consistency.
- Enhanced regression reliability by introducing automated pre-check validation scripts that detected setup inconsistencies before test execution, reducing nightly job failures by 15%.
- Integrated Jenkins-based continuous validation pipelines to run multi-configuration regressions and publish real-time metrics, improving visibility of test health across global teams.
- Authored internal QA documentation and onboarding guides for Calibre PERC feature validation, reducing training time for new engineers by 30%.

Product Development Engineer (System-Level Test) <i>Advanced Micro Devices (AMD)</i>	July 2020 – March 2024 Austin, TX
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- Owned end-to-end post-silicon validation for CPU bring-up, integrating 20+ diagnostic suites into unified test flows to evaluate power, thermal, and performance metrics at the system level.
- Automated data collection and analysis using Python, Perl, and STDF parsing to extract KPIs, correlate test coverage, and identify yield and reliability trends.
- Led cross-functional debugging efforts with diag, firmware, and validation teams to isolate system failures across BIOS, OS, and hardware boundaries.
- Developed regression orchestration pipelines and Jenkins/Power-BI dashboards for monitoring test execution, improving test throughput by 30%.
- Coordinated program milestones and test readiness reviews with internal and partner teams, ensuring timely silicon qualification and KPI compliance.

PROJECTS

FoodHub - Delivery Business Intelligence System

- Conducted comprehensive data analysis of 1,898 food delivery orders across 178 NYC restaurants using Python (pandas, matplotlib, seaborn), identifying \$6,166 in commission revenue and delivering 8 specific business recommendations that could reduce average delivery time by 21% (from 28.34 to 22.47 minutes) and potentially increase customer feedback rates from 61% to 85% through targeted engagement strategies

ML Pipeline Project

- Deployed production-ready MLOps solution for SuperKart retail forecasting using Flask REST API backend and Streamlit frontend, containerized with Docker and hosted on Hugging Face Spaces.
- Served real-time sales predictions through scalable microservices architecture processing 8,763+ transaction records with 66.8% model accuracy, supporting quarterly inventory planning.

Natural Language Processing RAG-powered medical AI assistant

- Developed RAG-based medical AI assistant using Mistral-7B LLM and 4,000+ page medical manual, implementing document chunking, vector embeddings (SentenceTransformers), and ChromaDB to achieve high accuracy and reduced hallucinations for healthcare decision support, with LLM-as-judge evaluation showing superior performance over baseline models

HelmNet: AI Powered Helmet Detection System

- Developed computer vision safety monitoring system using VGG-16 transfer learning and CNN architectures on 631 workplace images, implementing data augmentation and achieving high accuracy for automated helmet detection to enhance workplace safety compliance in construction and industrial environments

Predictive Analytics Portfolio (Loan, Visa, and Churn Models)

- Developed multiple machine learning models using Python (scikit-learn, TensorFlow, pandas) across financial and immigration datasets totaling over 40,000 records. Implemented Gradient Boosting, Decision Tree, and Deep Neural Networks with SMOTE oversampling to achieve up to 99.3% recall and 81.1% F1-score. Identified key predictors such as income, education, and wage level for improved targeting, retention, and process optimization.

MEMS Silicon Micro-robot

- Designed and fabricated thermally actuated MEMS micro-robot using CAD/SolidWorks design and COMSOL multi-physics simulation for heat transfer analysis.

EDUCATION

University of Texas at Austin

Post Graduate Program in Artificial Intelligence and Machine Learning (Part-Time)

Online

2025

Rochester Institute of Technology

Master of Science, Electrical Engineering

Rochester, NY

2020

Bharati Vidyapeeth University

Bachelor of Technology, Electrical Engineering

Pune, India

2016