

# Roshni Kobula Raja

607-297-9724 | Binghamton, NY | [rkobularaja@binghamton.edu](mailto:rkobularaja@binghamton.edu)  
[www.linkedin.com/in/roshni-kobula-raja/](https://www.linkedin.com/in/roshni-kobula-raja/) | <https://github.com/roshni2020> | <https://roshni-kobula.emergent.host>

## SUMMARY

CS grad student at Binghamton University with background in functional test software development, full stack development and data analytics using Python, Git and Linux. Combines software engineering experience in test-driven development, yield analysis and defect classification with a foundation in electrical and electronics engineering, actively building towards an Engineer, Test Manufacturing role.

## EDUCATION

**Binghamton University, SUNY, Thomas J. Watson College of Engineering and Applied Science** *May 2026*  
*Master of Science, Computer Science | GPA – 3.14/4.00*

**Coursework:** Design & Analysis of Algorithm, Systems Programming, Mobile System Security, Intro to AI, Data Mining

**Rajalakshmi Engineering College, India** *May 2024*

*Bachelor of Technology, Information Technology | GPA – 3.45/4.00*

**Coursework:** Data Structures and Algorithms, Operating Systems, Software Testing, Electrical & Electronics Engineering

## WORK EXPERIENCE

**Kanini, Data Analyst Intern, Chennai, India** *June 2023 - Dec 2023*

- Built and deployed a full-stack web application with Django and Flask enabling document upload and analysis, reducing manual processing time by 40%, integrated REST APIs for modular, scalable backend deployment across multiple applications.
- Developed and validated Python-based data processing pipelines; designed interactive dashboards to communicate system performance metrics to stakeholders.

**University of Texas at Dallas, AI/ML Intern, Texas** *Jun 2022 - Aug 2022*

- Collaborated with a cross-functional research team to collect requirements and implement Python based solutions for classifying and analyzing multimedia data.
- Built a music genre classification system using the K-Nearest Neighbors (KNN) algorithm, achieving 82% accuracy by engineering audio features with scikit-learn and NumPy.

## PROJECTS

**ATE Log Analyzer & PCB Yield Tracker** *April 2026 - Present*

- Engineered a Python tool to parse ATE style test logs in CSV and JSON format, extracting per board pass/fail records across test steps and computing yield KPIs for 150 boards spread across three board types to support structural and functional test analysis and cycle time reduction.
- Constructed an SMT data analytics engine that classifies hardware failure modes including opens, shorts, and parametric deviations by board type and test step, generating ranked defect reports with trend charts to identify areas for yield improvement.
- Validated the entire tool through a structured test plan of 18 pytest cases covering log parser accuracy, failure classification logic, yield computation, and PDF report generation with zero regressions, and integrated a SQLite traceability store logging board ID, test step, result, and timestamp for audit trail and failure trend queries.

**CS Career Pathway Intelligence Platform** *Jan 2026 - Present*

- Built and tested a full stack career guidance platform using Fast API, React, SQLite, and Git with REST APIs, semantic skill matching, and RAG based recommendations for 244+ tech roles from O\*NET data.
- Wrote 42 unit and integration tests using pytest covering engine logic, skill gap analysis, and API endpoints with zero regressions across iterative builds.

**Anomaly Detection System for CCTV Footage** *Nov 2025 – Dec 2025*

- Designed an automated visual defect classification system using Python and an LSTM model that scans video frames and categorizes anomalies including shoplifting, robbery and explosions with 92% accuracy, applying the same automated optical inspection principles used in AOI systems for PCB assembly testing.
- Deployed an end-to-end web platform integrating the LSTM backend with a frontend interface, managing the full pipeline from video input and feature extraction through model inference and anomaly reporting to enable real time incident classification.

## TECHNICAL SKILLS

- Languages & Frameworks:** Python, C/C++, SQL, HTML/CSS, Flask, Fast API, Django, React.js
- Tools & Platforms:** SQLite, Git, Linux (Ubuntu/WSL), REST APIs, Agile, SDLC, MS Visual Studio
- Verification & Validation:** Pytest (unit & integration), API validation, Regression testing, Test Strategy Creation, Functional test software development, Yield analysis, SMT data analytics, Quality data (KPI), Defect classification, DFT awareness, Process Optimization, Data interpretation, Failure analysis.

## CERTIFICATION

- Robotic Process Automation, Chennai, India *Nov 2022*