Sai Keertana Gubbala

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EDUCATION

Michigan State University   *East Lansing, MI*
- MS Data Science.
- BA Information Science (Honors), focus area on Human-Centered Technology.

EXPERIENCE

Michigan State University   *East Lansing, MI*
Health and Safety Student Assistant   *August 2025 – Present*
- Created a mobile incident reporting application in Microsoft Power Apps, enabling real-time critical incident documentation and emergency notifications for safety events to campus management teams.
- Developing a predictive compliance dashboard using Streamlit that forecasts maintenance requirements for 45+ residential buildings, incorporating historical data on accident reports, water infiltration events, and facility metrics.

BCS Automotive Interface Solutions   *Farmington, MI*
Software Development Intern   *May 2025 – Aug 2025*
- Built a real-time Polarion dashboard displaying historic and current project data, enabling automated internal audits and reducing manual report preparation time.
- Developed a Python automation tool that parses C files and auto-generates unit test cases, completing 80% of manual code processes and reducing testing workflow time for 16 engineers.

Michigan State University   *East Lansing, MI*
Undergraduate Research Assistant   *May 2024 – May 2025*
- Optimized 10+ Qualtrics surveys using HTML/CSS and JavaScript, implementing screening logic that filtered 100-250 participants down to 70-80 qualified candidates, reducing session costs and improving data collection efficiency.
- Analyzed 2,280 survey responses using R and path modeling to identify telehealth patterns, developing 3 publication-ready visualizations supporting an ongoing research paper.
- Implemented Python chatbot scripts for 70+ participant sessions across 6 research assistants, troubleshooting technical issues and creating documentation to ensure study timelines were met.

PROJECTS

Sustainable AI Infrastructure Analysis   *Aug 2025 – Dec 2025*
- Developed end-to-end data pipeline integrating 1,350+ records on global supercomputing infrastructure; performed KNN imputation, exploratory analysis, and linear regression to analyze energy efficiency trends in AI systems, deployed via interactive Streamlit dashboard.

Online Course Analysis   *Jan 2025 – May 2025*
- Cleaned and visualized complex datasets using Python libraries, resolving missing values and data quality issues. Applied accessibility design principles and color theory to create inclusive plots with colorblind-friendly palettes for effective insight communication.

SimpylCellCounter ML Enhancement   *Aug 2024 – Nov 2024*
- Implemented grid search hyperparameter optimization for OpenCV-based cell counting algorithm, tuning 5 parameters and achieving up to 13.7% RMSE reduction across diverse mouse brain tissue types with 150 microscopy images. Automated end-to-end ML pipeline with batch processing, cross-validation against ground truth, and performance evaluation using MSE/RMSE metrics.

SKILLS

Languages & Tools: Python, R, SQL, C/C++, JavaScript, Bash, Git, HPC, Unix, Tableau.
Libraries: Plotly, Statsmodel, OpenCV, PyTorch, Scikit-learn, Streamlit.
Techniques: Supervised Learning (SVM, Decision Tree, Regression), Unsupervised Learning (PCA, K-Means Clustering).