SAI SANJAY POTLURI

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PROFESSIONAL SUMMARY

Data Science and **AI Research Expert** with advanced proficiency in developing, evaluating, and fine-tuning Large Language Models (LLMs) and statistical systems. **AWS Certified AI Practitioner** with hands-on experience in designing rigorous evaluation rubrics, generating synthetic data, and improving AI accuracy by over 20%. Skilled in prompt engineering, reward modeling, and translating data science logic into scalable, gradable AI assessment frameworks. Proven ability to drive AI project lifecycle from research and annotation to deployment and performance tuning.

TECHNICAL SKILLS

Languages: Python, SQL, Java, JavaScript, HTML, CSS, C++
Developer Tools: MS Excel, Tableau, Git, Docker, VS Code, IntelliJ, Eclipse
AI/ML Libraries & Frameworks: PyTorch, TensorFlow, Transformers, pandas, NumPy, scikit learn, spaCy
Concepts: LLM Evaluation & Fine-Tuning, Reward Modeling, Statistical Analysis, Synthetic Data Generation, Business Analysis, Data Visualization, Time-Series Analysis, RESTful APIs, Agile.

EXPERIENCE

Artificial Intelligence and Large Language Models Researcher — Aug 2024 – Jul 2025
Kennesaw State University — *Atlanta, GA*

- Evaluated AI-generated data analysis from models including Phi-3.5, Mistral, and Gemma for quality, accuracy, and relevance against detailed rubrics.
- Conducted statistical analysis and modelling for open-ended research prompts, achieving 86.23% accuracy in mental health diagnostics and an 83.1% F1-score in fake news detection.
- Designed prompts and created detailed rubrics for reward modelling and evaluation of LLM outputs, defining clear gradable criteria for performance assessment.
- Produced gold-standard responses, including 2,040 synthetic mental health scenarios with explanatory notes, used to train and benchmark AI systems.
- Translated data science reasoning and decision-making into a hybrid annotation framework, improving evaluation accuracy by 15-22% across domains.
- Applied strong understanding of data analysis techniques and machine learning principles to identify patterns and trends in a corpus of 44,898 news articles

Associate Professional Software Engineer — Feb 2023 – Aug 2023
DXC Technology

- Synthesized and maintained ATM applications using IBM mainframe technologies: COBOL, JCL, IMS-DC, and IMS-DB
- Monitored performance of 100+ jobs and debugged errors, ensuring 99.9% system uptime and demonstrating strong attention to detail.
- Collaborated with 3 cross-functional teams, improving application efficiency by 25%.

Data Science Intern — Dec 2022 - Jan 2023
TwiLearn Ed Tech Pvt. Ltd

- Collected, transformed, and analyzed 6+ years of sales data using Python libraries (Pandas, NumPy) to drive informed decision-making.
- Visualized 5 Tableau dashboards to visualize sales trends over a decade, enabling data-driven insights and improving decision-making by 15%.
- Compiled 3 key KPIs for profit, units sold, and category-based profits, supporting 5 critical business decisions.
- Summarized complex data insights to non-technical stakeholders, demonstrating strong oral and written communication skills.

RESEARCH AND PUBLICATIONS

- **Potluri, S. S.**, et al. "Large Language Model Enabled Synthetic Dataset Generation for Human-AI Teaming in Mental Health Assessment." *Applied Computing and Intelligence*, vol. 5, no. 2, 2025, pp. 127-153. doi: 10.3934/aci.2025009.
- Sai Sanjay Potluri, Md Abdullah Al Hafiz Khan, Yong Pei. Large language model enabled synthetic dataset generation forhuman-AI teaming in mental health assessment[J]. Applied Computing and Intelligence, 2025, 5(2): 127-153. doi: 10.3934/aci.2025009

PROJECTS

Heart Disease Diagnostics | *Python, NumPy, Pandas*   Oct 2022 - Dec 2022
- Processed and analyzed a dataset of 1,000+ patient records, examining 10 vital health statistics.
- Integrated descriptive and inferential statistical tests, including T-tests, ANOVA, and Linear Regression.
- Visualized 5 data visualizations to highlight trends and correlations, improving pattern recognition efficiency by 40%.

Shopping Cart | *C#, HTML, CSS, JavaScript, SQL*   Apr 2024 – May 2024
- Designed and implemented a database system managing 500+ car parts across 10 categories.
- Scripted SQL queries for data extraction and analysis to support business decision-making.
- Automated reports for sales trends and inventory management, demonstrating ability to design rigorous methods of analysis.

Home Automation | *Python, HTML, CSS, Arduino UNO*   Nov 2021 - Jan 2022
- Modeled a responsive web interface using HTML and CSS for controlling home automation devices.
- Integrated frontend with Arduino-based backend for real-time device control.
- Demonstrated ability to work on full-stack projects involving both hardware and software components.

SAM: A Smart Assistant| *Speech_recognition, pyttsx3, pywhatkit, pyjokes*   Mar 2022 – May 2022
- Built a Python-based virtual assistant with a user-friendly interface for voice command processing.
- Incorporated external APIs for features like YouTube playback and Wikipedia information retrieval.
- Implemented error handling for robust performance in various usage scenarios.

Airline Management System | *COBOL, JCL, IMS-DB, IMS-DC*   Feb 2023 – Apr 2023
- Engineered a control logic in COBOL to calculate passenger discounts based on various input criteria.
- Utilized JCL, IMS-DB, and IMS-DC for database management and transaction processing in a mainframe environment.
- Collaborated with a team of five to debug, test, and deploy the airline management system on a remote mainframe.

EDUCATION

Kennesaw State University (CGPA: 3.33)   Aug 2023 - *Jul 2025*
Master of Science in Computer Science
Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Web Development, Database Systems, Machine learning, SQL

Vignan Institute of Technology and Science (CGPA: 7.2)   Jul 2018 – Aug 2022
Bachelor of Technology in Electronics and Communication Engineering