Sudarsan Nallur Murali

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EDUCATION

Master of Science: **Business Analytics and Project Management,** University of Connecticut, Hartford. **Aug 2023 - May 2025**
Bachelor of Technology: Computer Science Engineering, SASTRA Deemed University, India. **Jul 2017 - Jun 2021**

TECHNICAL SKILLS

Programming Languages and Database: C, C++, C#, Java, Python, R, SQL, CSS, HTML.
Machine Learning/NLP Frameworks: NTLK, Pandas, Tensorflow, Matplotlib, PyTorch, SciKit-Learn, NLP, NumPy.
Tools/IDE: DBeaver, SAS, JMP, Jupyter Notebook, RStudio, GitHub, Azure Databricks, Atlassian JIRA, Visio.
Management: Project Management, Agile Methodology, Budget Planning, Documentation, Quality Assurance, Risk Management.
Course Work: Data Management, Statistics in Business Analytics, Predictive Modeling, Visual Analytics (Tableau), Business Decision Modeling, Data Science (Python), Data Mining (Forecasting & Text Mining).

PROFESSIONAL EXPERIENCE

Ananda AI – Hartford, Connecticut **Aug 2024 - Dec 2024**
Gen AI Developer Intern

- Created a chatbot for Ananda AI utilizing LLMs like Llama3-8b-8192, transformed user engagement by delivering accurate real-time answers on cryptocurrency inquiries through innovative conversational techniques.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline, integrating proprietary company data with Langchain for robust conversational workflows, achieving 90% log traceability and enhanced domain specific response accuracy.
- Deployed the chatbot on a cloud-based architecture with FAISS and PyPDF, reducing data retrieval time by 40% and boosting system processing speed by 25%.
- Developed and engineered over 50 technical indicators, including SMA, EMA, RSI, MACD, and Bollinger Bands, leveraging TA-Lib to generate robust buy/sell signals across different timeframes (15 mins to 1 week).
- Backtested 100+ indicator time window combinations and optimized trading strategies using Backtrader, achieving a 13% annualized return with improved Sharpe ratio, while aligning risk metrics to investor expectations and enhancing portfolio performance.
- Led and facilitated communication for a team of 10 as the primary sponsor liaison, ensuring seamless project updates and alignment between the team and company stakeholders, culminating in a comprehensive presentation to C-suite executives.

Collins Aerospace – Bengaluru, India **Jul 2021 - Jul 2023**
Associate Data Engineer

- Automated 62% of test cases, reducing manual intervention and improving the testing framework with NUnit, resulting in an annual cost savings of $20,000.
- Collaborated with stakeholders to test production releases, present demonstrations, and gather feedback, guaranteeing 100% client satisfaction and software consistency.
- Designed and architected workflow comprising 631 test cases, increasing transparency and streamlining future development.

Graduate Trainee Analyst **Feb 2021 - Jul 2021**

- Managed 30+ relational database tables using SQL to derive actionable insights and collaborated with clients to develop and validate user test cases, ensuring the results met precise business requirements.
- Excelled in a fast-paced Agile environment with 12 members, identifying and resolving potential bugs, validating fixes, and delivering high-quality projects within tight deadlines.

ACADEMIC PROJECTS

Cryptocurrency Price Prediction (Pandas, Numpy, Matplotlib, Imblearn, Pipeline)

- Delivered a 77% accuracy, with a 91% recall in correctly predicting positive cases. Balanced precision and recall, achieving a weighted F1 score of 0.756, demonstrating strong model performance.
- Developed and tested predictive models using SciKit-Learn and TensorFlow on cryptocurrency price forecasting. Employed advanced machine learning techniques including Random Forest and sequence processing, which improved model accuracy by 15% over baseline models.
- Reduced large feature set variables using permutation importance, and partial dependence plots, decreasing model run time by 30%.

Advanced Job Post Analytics for Optimized Classification (NLTK, SMOTE, Pylab, Seaborn)

- Led a data mining project by extracting, cleaning, and preprocessing textual data from over 19,000 job postings. Implemented NLP techniques including tokenization, TF-IDF vectorization, and lemmatization to prepare data for machine learning.
- Achieved model accuracy up to 91.8% with a precision of 92.3% using Random Forest, increasing the accuracy by 7% by utilizing proper stop-words, stemming techniques and giving keywords required for job clearing.

ACTIVITIES & ACHIEVEMENTS

Supervisor at UConn Dining Services, Best Fresher Award at Collins Aerospace, Planet Education Campus Ambassador, Spearheaded DAKSH Marketing & Sales Team.