FNU TRUPTI

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Data analyst with hands-on experience in data analysis, machine learning, and data visualization using Python, SQL, and Power BI. Proven ability to improve performance and data accuracy using technical skills.

EDUCATION

University of Maryland, Baltimore County – Master's in Information Systems (GPA: 3.9) May 2025

Godutai Engineering College for Women – Bachelor's in Electronics and Communication (CGPA: 8.9) Aug 2021

EXPERIENCE

NEOPATHOLOGY CORP. | *Research And Development Intern* Jun 2024 - Aug 2024

- Engineered Python algorithms with regionprops to extract features from 2,500+ tissues, improving morphological analysis.
- Integrated shape analysis tools into pipelines, boosting annotation coverage by 26% in tissue evaluations.
- Validated extracted features with t-tests and distribution analysis, improving object detection in histopathology.
- Maintained code versioning and reproducibility using Git, ensuring consistent experimental results across model iterations.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY | *Research Assistant* Feb 2024 - May 2025

- Designed ML models using survival analysis and fairness algorithms for equitable healthcare risk prediction.
- Engineered fairness metrics in Python (e.g., demographic parity, equal opportunity) to reduce bias in healthcare resource allocation.
- Built data pipelines with Pandas and NumPy to clean and structure healthcare datasets (100K+ records).

GOVERNMENT TOOL ROOM AND TRAINING CENTER | *Data Analyst* Mar 2021 - May 2023

- Developed SQL systems and automated Python ETL workflows to monitor machine KPIs, reducing manual reporting time by 40%.
- Designed Power BI dashboards to monitor utilization, downtime, and throughput, improving visibility and accelerating decisions.
- Integrated PLC, SCADA, and IIoT via MQTT and Raspberry Pi for predictive maintenance, cutting failures by 15%.
- Conducted time-series forecasting with CMMS data in Azure Data Studio, increasing production throughput by 12% and reducing machine downtime by 10%.
- Integrated data from SCADA and CMMS into centralized dashboards for real-time and historical insights.

SKILLS

Languages	Python, SQL, R, Java, C/C++, HTML, CSS, JavaScript
Data Analysis	Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, WEKA, spaCy
Visualization	Tableau, Power BI, Matplotlib, Seaborn, Excel, Streamlit
Databases	MySQL, PL/SQL, NoSQL, SQLite, MongoDB, Snowflake
Cloud & Tools	GitHub, Docker, AWS, Azure, Visual Studio, Adobe XD, Lens Studio, MS Office, PowerPoint
Industrial Tools	SCADA, CMMS, MQTT, Raspberry Pi

PROJECT

Spotify AI Recommender | *Apr 2025*

- Built a Streamlit app that recommends songs using cosine similarity and mood classification based on Spotify audio features.
- Trained ML models to classify mood (happy, calm, energetic) using features like tempo, valence, energy, and danceability.
- Integrated EDA tools and PCA visualizations to analyze genre, mood, and song clusters from uploaded playlists and data from the Spotify API.
- Deployed the app using Streamlit for local demos and collected user feedback to evaluate recommendation relevance and UX.

Named Entity Recognition (NER) | *Dec 2024*

- Developed a biomedical NER system using Python, scikit-learn, and spaCy with SVM and CRF models.
- Applied preprocessing techniques including tokenization, POS tagging, and lemmatization; optimized models using grid search.
- Evaluated and visualized model outputs using custom annotation tools on annotated biomedical datasets.

Database Management System | *Oct 2023*

- Built a restaurant management system using PL/SQL for inventory, menu, and order tracking.
- Designed normalized relational schemas and implemented stored procedures, triggers, and views to automate reporting.
- Used MySQL Workbench for schema modeling, query optimization, and functional testing in a simulated production environment.
- Developed automated reporting queries to provide real-time insights into sales, inventory, and order trends.