Ruchitha Uppuluri

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KEY SKILLS

- **Programming Languages:** R, Python(Scikit-learn, Pandas, NumPy, Matplotlib), SQL
- **Data Science & Statistics:** Machine Learning, Statistical Modeling, Survival Analysis, Time-to-event modelling, Imputation
- **Healthcare & Clinical:** Clinical Trial Operations, Electronic Health Records, Study Design, Epidemiology
- **Generative AI:** LLMs, RAG, LangChain, Model Context Protocol (MCP)

EXPERIENCE

University Hospitals Bristol and Weston NHS Foundation Trust *Bristol, UK*
ENT Administrative Assistant *Oct 2023 - Oct 2025*

- Developed an interactive scan-tracking dashboard using Excel that improved follow-up visibility and cut delays by 30%, enabling smoother multi-disciplinary team communication and improved patient care coordination.
- Updated and validated patient records with high accuracy, improving data quality by 15% and reducing miscommunication while delivering timely scan outcomes to increase patient satisfaction by 10%.

Marvell Technology *Hyderabad, India*
Security Solutions Project Management Intern *Sep 2020 - Jun 2021*

- Streamlined task tracking and reporting workflows using analytical insights, boosting delivery efficiency by 20% and supporting predictable sprint execution.
- Investigated and resolved test-case anomalies in JIRA with cross-team debugging, achieving 100% on-time reporting and strengthening reliability in deliverables.

PROJECTS

Healthcare Premium Prediction ***[Project Link]***
[Python | Regression | Machine Learning]

- Designed a full ML pipeline for premium prediction using regression, feature engineering, and cross-validation, improving estimation accuracy by 18% while strengthening decision clarity and collaboration through clear model insights and well-structured analysis.
- Synthesized demographic, lifestyle, and medical-history data into interpretable predictors using scalable preprocessing and interaction-effect analysis, enabling smoother stakeholder communication and reliable premium-risk assessments across age groups.
- Launched a Streamlit app integrating trained models and validation logic, reducing scenario-analysis time by 30% and enhancing user confidence through intuitive workflows, transparent outputs, and consistent model performance.

Survival Prediction in Head and Neck Squamous Cell Carcinoma ***[Project Link]***
[R | Survival Analysis | Machine Learning]

- Developed a survival-prediction framework on TCGA datasets using Kaplan–Meier, Cox PH, and ML models to counter low interpretability, improving C-index to 0.74 and clarifying clinical risk factors like stage IVA+ and age progression.
- Refined ML classification pipelines to confront class imbalance and modelling variance, improving ROC to 0.587 and enabling clearer communication of modelling limitations and next-step optimisation strategies.

Study Dropout Prediction in ALSPAC Cohort ***[Project Link]***
[R | Machine Learning | Statistical Modelling | MSc Dissertation]

- Engineered predictive pipelines using Random Forests with 10-fold CV on 14K+ participant records to address uncertainty in dropout patterns, achieving AUC 0.75 and enabling clearer interpretation of behavioural and demographic risk contributors for research teams.
- Optimised feature selection through Gini-based ranking and structured domain categorisation, improving model transparency and supporting more informed discussions on retention strategies across academic stakeholders.
- Enhanced data reliability by imputing missing values, filtering low-variance predictors, and validating outliers, maintaining 98% correlation consistency and ensuring reproducible, high-confidence outputs for longitudinal cohort analysis.

EDUCATION

University of Bristol *Bristol, UK*
Master's in Medical Statistics and Health Data Science *Sep 2022 - Sep 2023*

Chandigarh University *Punjab, India*
Master of Engineering - CSE in Artificial Intelligence and Machine Learning *Jul 2019 - May 2021*

PUBLICATIONS

- **Uppuluri, R. V. S. M.**, and Jindal, V. "A Hybrid Feature Selection Model for Predicting Chronic Obstructive Pulmonary Disease," *2021 Third International Conference on Inventive Research in Computing Applications (ICIRCA)*, IEEE, 2021. [**Paper**]

CERTIFICATIONS

- **CodeBasics GenAI and DataScience Bootcamp**, Dec, 2025. [**Certificate Link**]