

Clinical Trials Analytics Project

Description

Project Overview

- **Process:** Developed a comprehensive clinical trials analytics solution using Python and SQL, implementing end-to-end data pipeline from synthetic dataset generation to advanced predictive modeling, including descriptive statistics, data visualization, and machine learning algorithms for patient dropout prediction, adverse event risk assessment, site performance evaluation, and study timeline forecasting.
- **Outputs:** Generated 25+ interactive visualizations, 4 predictive models with performance metrics (accuracy ranging from 75-85%), comprehensive statistical summaries across all clinical trial domains, and actionable insights for trial optimization including patient risk stratification, site performance rankings, and timeline predictions with associated confidence intervals.