Davis Rapp

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Work Experience

Data Analyst   **Charlotte, NC**
DryWorx   *Sept 2022 – Present*

- Designed and maintained an automated Python data pipeline that ingests and transforms CRM exports to support operational and financial reporting across 200+ monthly projects.
- Built Tableau and Excel dashboards for leadership to track revenue, job completion rates, backlog, and scheduling performance.
- Performed 10+ ad hoc analyses per week using SQL and Python to answer business questions related to service profitability, delivery delays, and month to date performance.
- Automated previously manual data entry and reporting workflows, eliminating 20+ hours of manual effort per month and reducing reporting errors.

Physical Therapist Assistant   **Charlotte, NC**
Broad River Rehab   *Feb 2020 – Sept 2022*

- Delivered one on one therapy sessions focused on strength, balance, and mobility for patients recovering from orthopedic surgeries and neurological conditions.
- Tracked and documented patient outcomes using standardized metrics to support treatment planning and evaluate progress over time.

Projects

Hospital Readmission Prediction Model   GitHub

- Built a machine learning model to predict 30 day hospital readmissions using 101,766 patient encounters from 130 US hospitals, achieving 0.64 ROC AUC and 51% recall.
- Engineered features including prior utilization flags, medication complexity indicators, and length of stay thresholds to capture clinical risk factors.
- Segmented patients into Low, Medium, and High risk tiers for intervention prioritization, with high risk patients showing 3x higher readmission rates (22.9%) than low risk (7.8%).
- Integrated CMS Hospital Compare API to demonstrate external data enrichment capabilities for facility level analysis.

Insurance Fraud Detection System   GitHub

- Built and evaluated classification models in Python to identify potentially fraudulent auto insurance claims using a dataset of 15,000+ records.
- Selected a final model achieving 61% recall and a 0.67 ROC AUC, with an estimated $98K in annual savings from earlier fraud detection.

Job Market Clustering Analysis   GitHub

- Analyzed 2,250+ data analyst job postings using Python to extract skills, experience requirements, salary ranges, and geographic trends from unstructured text.
- Applied k means clustering to segment roles by skill mix, seniority level, and location, revealing distinct hiring patterns across the market.
- Published an interactive Tableau dashboard allowing users to explore trends by region, seniority, and skill demand.

Education

Bachelor of Science in Data Analytics
Western Governors University   *2024*

Skills & Certifications

Technical Skills: SQL (MySQL, PostgreSQL), Python (pandas, NumPy, scikit learn), Tableau, Power BI, Microsoft Excel, Data Analysis, Data Visualization, Statistical Analysis
Certifications: CompTIA Data+, CompTIA Project+, AWS Certified Cloud Practitioner