Ian Dover

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Employment History

2023 – ⋯   🔖 **Fortegra Financial, Senior Analytics Engineer (Data Science Team)**

- Subject matter expertise in specialty insurance concepts: premiums, losses, loss and underwriting ratios, and reserving.
- Consistently submitted an average of one pull request daily to the development branch of critical projects on GitHub.
- Managed 6 - 8 Jira story points weekly, employing scrum methodologies including daily stand-ups, sprint planning, and retrospectives.
- Developed a claims triangle automation application for Actuaries, reducing manual hours significantly by producing hundreds of triangles within minutes.
- Engineered the claims triangle tool using Databricks, integrated with GitHub Actions for CI/CD across three environments: production, user acceptance testing, and development. Utilized ServiceNow for front-end and Flask for API interactions.
- Created and maintained a comprehensive data pipeline that processes insurance book data, delivering actionable insights and rerate suggestions that projected over $1 million in loss savings per program across more than 15 programs - projecting 40 programs by EoY.
- Scoped causal inference techniques to leverage historical on-leveling data for predicting customer churn and influx using a counterfactual and potential outcomes framework.
- Employed software development best practices, including type hints, docstrings, modular design, and comprehensive testing (unit, regression, and multi-stage acceptance via GitHub).
- Presented rerate suggestions to VP-level employees and underwriters at Fortegra.
- Developed a robust data validation framework utilizing Python's Cerberus and concurrency packages and Snowflake, designed to efficiently validate large dataframes exceeding 10 million rows.

2020 – 2023   🔖 **FedEx Services, Data Analyst (R&D Team)**   Awarded 2 Bravo Zulus

- Proficient in delivering polished, informative presentations on statistical concepts, analytics discoveries, and modeling outcomes.
- Proficient in Python for data analytics and modeling, utilizing libraries such as scikit-learn, Pandas, NumPy, Seaborn, and Matplotlib.
- Developed a customer categorization clustering model, currently in pilot testing, aimed at enhancing collections strategies based on payment behaviors.
- Executed advanced analytics and predictive modeling on external datasets for customer credit assessments, establishing robust pipelines that rival traditional credit risk models.
- Achieved model accuracies of 80% and 90% for positive and negative classifications respectively (AUC = 0.9), significantly reducing potential losses from delinquent accounts.
- Conducted thorough exploratory data analysis, employing various statistical graphics to extract insights, and presented findings to stakeholders for strategic review.
- Managed large-scale data pipelines using SQL and PySpark, handling complex data operations efficiently.

Education

2020 – 2024   **M.Sc. Computer Science - Concentration in Machine Learning**
Georgia Institute of Technology
Classes: **(1)** Reinforcement Learning, **(2)** Educational Technology, **(3)** AI for Robotics, **(4)** Computer Vision, **(5)** Machine Learning for Trading, **(6)** Data and Visual Analytics, **(7)** Topics on High Dimensional Data Analytics, **(8)** Deep Learning, **(9)** Machine Learning, **(10)** Artificial Intelligence, **(11)** Graduate Algorithms
Skills: Utilized docker development environments (Ubuntu image) with GitHub integration. Included good design documentation. Occasional use of Pylint, unit testing, and environment configuration files.

2016 – 2020   **B.Sc. Electrical Engineering**
Christian Brothers University

Projects

2023   **Personal Portfolio Website (Work in Progress)**
Tools: Heroku Hosting and CI/CD, Flask, GitHub, jQuery
https://iandoverportfolio.com/

Underwriting Challenge (Time Taken: 15 hours - **Not Representative of my Best Work**)
1. Performed exploratory data analysis on claims and premiums data. (link)
2. Performed data engineering for customer churn modeling. (link)
3. Modeled data and evaluated performance. (link)

Research Publications

Hussin K. Ragb, Ian T. Dover, Redha Ali, (2020). Deep Convolutional Neural Network Ensemble for Improved Malaria Parasite Detection. IEEE Xplore, AIPR.

Hussin K. Ragb, Ian T. Dover, Redha Ali, (2020). Fused Deep Convolutional Neural Network for Precision Diagnosis of COVID-19 Using Chest X-Ray Images. arxiv.

Ian T. Dover, Jawad Almaatouk , Chad Baker, John Ventura (2020). Data-Over-Sound Robot. IESTOC.

Certifications

2023 – 2024   **A.I. Professional Program**
Stanford School of Engineering
Classes: Natural Language Processing with Deep Learning (XCS224N-015)

2022   **Post Graduate Program in Data Science and Business Analytics (8 Months)**
UT Austin - Texas McCombs School of Business

Skills

Technical   🔖   Python, Azure Databricks, GitHub, Mathematics, Statistics, Docker Dev Containers, SQL, PySpark, Pandas, NumPy, scikit-learn, PyTorch, Seaborn, Matplotlib, Azure Synapse, Azure Machine Learning Studio, VS Code