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 (Paperspace 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