Rischan Mafrur

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Highlight

Currently, I am a researcher at Macquarie University, Australia. In this role, I have been working closely with financial data experts to extract raw data from the ASX, process it, and produce end-of-day files (ready for academic use). There are over 2,200 listed securities in Australia, and the number of derivatives, deferred securities, stock splits/consolidations, dividends, etc., that occur is almost unlimited. Previously, the process of ingesting ASX raw data and producing these files was carried out using a semi-manual workflow. I led this project, analyzing all the requirements and building an automated system to replace the hundreds of man-hours spent annually on this task.

I am also mainly building a crypto data warehouse and working on the Product Definitions Project, which is instrumental in defining the data available within the data warehouse collections hosted on both AWS and our on-premises rack servers. One example of this project is a website that is automatically generated and updated by the software based on the data availability in our data warehouse collection. This website can be viewed here: cryptodatawarehouse.org.

Work Experience

- **Department of Applied Finance, Macquarie University** Sydney, Australia (Remote)
  Working with ASX and Crypto data *Feb. 2023 - Present*
    - **End-of-Day ASX Data Service**: Duties: Generated end-of-day files. These end-of-day files are generated from raw data sourced from the Australian Securities Exchange (ASX).
    - **Ethereum Mempool Data Analysis**: Duties: Analyzed and reported Ethereum mempool data for blockchain transaction insights.
    - **Centralized Exchange (CEX) Crypto Data Analysis**: Duties: Analyzed and reported data from Centralized Exchange (CEX) platforms to inspect the exchange data qualities.

- **Kartoza** South Africa
  As a Backend and DB Engineer, I was responsible for the following projects: *Sept. 2015 - Feb. 2017*
    - **Projecta**: Open source visual changelogs for software releases and for managing a software project at a high level
    - **AgriTechnovation**: Farms view and managing farm lands in South Africa
    - **SANSA Catalogue**: SANSA (South Africa National Space Agency) Earth Observation Online Catalogue

Education

- **The University of Queensland** Brisbane, Australia
  Doctor of Philosophy in Data Exploration and Visualization *Jan. 2018 – Dec. 2022*

- **Chonnam National University** Gwangju, South Korea
  Master of Engineering in Internet of Things *Sept. 2013 – Aug. 2015*

- **Sunan Kalijaga State Islamic University** Yogyakarta, Indonesia
  Bachelor of Computer in Informatic Engineering *Aug. 2009 – Jan. 2013*

Programming/Tech Skills

Languages: Python (Expert in Python Pandas), SQL, R

Operating Systems: UNIX system/Linux, OSX, Windows

Tools: Jupyter Notebook, Docker, Git

Vizlibs: Matplotlib, Seaborn, Plotly

Database: PostgreSQL, MySQL, Oracle

Cloud: AWS, GCP

Blockchain: Ethereum and Solana

MLTools: Scikit-Learn, SciPy

Miscellaneous

- **Kaggle Competition Expert (Ranked 2,921 out of 205,757 globally)**: Top 3% (Silver Medal) in the Jane Street Market Prediction Competition and Top 4% (Silver Medal) in the Cornell Birdcall Identification Competition
- **Dune Blockchain Analytics**: A collection of my crypto research dashboards, primarily focused on analyzing the Solana blockchain using SQL.
- **medium.com/@diteliti**: Recently, I have used my writing slot time to write some crypto research and analytics articles which most of them are sponsored by some crypto venture capital.

Recent Publications

- **Rischan Mafrur**, Mohamed A. Sharaf, and Guido Zuccon, "VizPut: Insight-Aware Imputation of Incomplete Data for Visualization Recommendation", CoRR, abs/2311.07926, 2023.

- **Rischan Mafrur**, "Recommending Data Visualizations: Tackling Diversification and Data Quality Challenges", PhD Thesis, School of Electrical Engineering and Computer Science, The University of Queensland, 2023.

- **Rischan Mafrur**, Mohamed A. Sharaf and Guido Zuccon, "Efficient Diversification for Recommending Aggregate Data Visualizations", IEEE Access, 2023.

- **Rischan Mafrur**, Mohamed A. Sharaf and Guido Zuccon, "Quality Matters: Understanding the Impact of Incomplete Data on Visualization Recommendation", *DEXA '20 The 31st International Conference on Database and Expert Systems Applications*, September 14 - 17, 2020 , Bratislava, Slovakia.

- **Rischan Mafrur**, Mohamed A. Sharaf and Hina A. Khan, "DiVE: Diversifying View Recommendation for Visual Data Exploration", *CIKM '18 Proceedings of the 27th ACM International Conference on Information and Knowledge Management*, October 22 - 26, 2018 , Torino, Italy.

- **Rischan Mafrur**, I Gde Dharma Nugraha and Deokjai Choi, "Modeling and discovering human behavior from smartphone sensing life-log data for identification purpose", *International Journal of Human-centric Computing and Information Sciences*, Vol. 5 (2015), pp. 1-18.