HA NGUYEN

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PROFESSIONAL EXPERIENCE

GOLDMAN SACHS – *Software Engineer (Associate)*   July 2019 – Present

- Transforming Client Services' system architecture to process and distribute real-time data to adapt to the growing demands of clients trading more sophisticated instruments and the new T+1 settlement cycle.
    - Develop core multi-threaded components using Java, Kubernetes, Apache Kafka, Amazon S3.
    - Analyze daily transactions using Python and SQL to understand existing trade patterns and traffic.
    - Design technical architecture for the new ecosystem that supports OLAP and OLTP use cases.
- Implemented a machine learning model in Python to predict the best hedging strategy during a stock recall for China market given external market conditions.
    - Performed data collection, data pre-processing, and feature selection.
    - Implemented approaches from research papers to find alpha.
- Optimized a Java rule-based multi-threaded anomaly detection engine, which analyses transactions from 100+ trading platforms daily and detects those with unusual behaviours to enhance risk management and post-execution client services.
    - Analyze transaction data using Python and SQL and experiment with various approaches for grouping economic attributes to identify patterns conducive to trade anomaly.
    - Implement the strategy using Java and tune performance to accommodate skewed data.
- Developed a case management system in Java that systematically resolves 82% of trade anomalies detected in daily transactions to reduce manual workflows and improve client money lockup precision.
    - Designed the process model and implemented API endpoints.
    - Set up high-availability proxy for load balancing.
- Writing utility scripts in Python for data analytics and production maintenance.

THOMSON REUTERS – *Data Engineer Intern*   May 2018 – Aug 2018

- Enhanced the execution time of an NLP deep learning model in Java by optimizing object creation and data structures. This model is extracts structured information from unstructured texts, driving Thomson Reuters Eikon and Reuters News.
- Measured the semantic similarity of training text data and removed a large number of similar texts using Python.
- Developed an assessment pipeline in Python to streamline the process of evaluating the accuracy of deep learning models, reducing 1 hour of manual evaluation effort.

GENERAL ELECTRIC (HEALTHCARE) – *Business Analyst (Part-time)*   Oct 2017 – April 2018

- Collaborated with Finance, Operations, and Commercials teams to automate workflows using Python.
- Developed 4 analytics dashboards in Python to expedite decision-making with real-time analysis, saving 2 hours weekly on manual reporting and laying the groundwork for self-service analytics initiative.

SMU – TCS ICITY RESEARCH LAB – *Data Science Research Assistant*   May 2017 – Aug 2017

- Conducted research on data-driven, unobtrusive sleep monitoring approaches for elderly individuals living alone. While various methods existed, they were proven impractical for long-term monitoring due to the discomfort they caused or their reliance on the elderly's unstable cognitive abilities.
    - Analyzed 2 years of motion data collected from motion sensors and door contacts, and detected fluctuations in their sleep patterns by utilizing an extended changepoint detection model for statistical process control coupled with the nonparametric hypothesis test Mann – Whitney.
    - Documented research findings in a technical paper titled "Change Detection Method for Elderly Sleep Patterns Using Motion Sensors" that was presented at Internet of Things technology conferences.

EDUCATION

SINGAPORE MANAGEMENT UNIVERSITY   Aug 2015 – June 2019

- Bachelor of Science (Information Systems) major in Analytics

COMMUNITY CONTRIBUTIONS

GOLDMAN SACHS APAC WOMEN IN ENGINEERING – *Outreach Executive*   June 2020 – Present

- Conduct bi-annual workshops on Python, Artificial Intelligence, and Raspberry Pi for Singapore secondary school girls to promote inclusivity and empower young girls to pursue STEM fields.
- Mentored a group of secondary school girls to develop a multilingual chatbot for a local elderly care centre.

CERTIFICATES & SKILLS

Certifications:	2nd Runner Up Singapore Data Science Competition 2019, Bloomberg Market Concepts
Skills:	Java, Python, SQL, Apache Kafka, Apache Iceberg, Data Lakehouse, Kubernetes