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# Tung Nguyen

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## Professional Experience

**Data Engineer (Full-Stack)**, RTX 2023 – Present (3+ years)

- Led data engineering initiatives for the Supply Chain organization, building and maintaining 60+ Airflow, Snowflake, and PostgreSQL pipelines responsible for generating business-critical datasets.
- Led development of multiple enterprise-grade analytics applications (deployed on AWS), such as:
  - *Claims & Assertions Ecosystem*: A series of databases, dashboards, and pipelines responsible for centralizing contractual metadata. Acts as an extension of the company's ERP and automatically identifies $100M+/year in assertion opportunities, with $15M+ realized during the first year of operation.
  - *Line Disruption Webapp*: A data-intensive webapp used daily by 300+ procurement specialists to mitigate material shortages. Delivered a scalable backend REST API responsible for SSO, CRUD operations, change data capture, and notifications & escalations.
  - *Economic Price Adjustment Webapp*: A statistical simulation webapp which combines internal business logic with economic data from external APIs to aid analysts in pricing forecasts and contract evaluation.
- Built a fully automated machine learning pipeline for predicting supplier on-time delivery (an essential business metric). Pipeline included daily inference, monthly retraining, and degraded performance alerts.

**Structural Analysis Engineer**, RTX 2018 – 2023 (5 years)

- Responsible for the design, analysis, and sizing of aerospace structures in a wide variety of environments.
- Semi-Finalist for a company-wide Engineer of the Year award; nominated for establishing structural optimization standards for military platforms, resulting in weight margins increases from 1 - 5% to 10 - 20%.
- Proactive developer of internal tools used for analysis automation, design space exploration, and designer-analyst collaboration.
- Architected an email text mining pipeline - utilized natural language processing techniques (embeddings, clustering, LDA, & keyword extractors) to derive actionable insights from a database of emails.

## Projects

**Agentic Anomaly Detection System**

- Designed and implemented an end-to-end anomaly detection system by combining multivariate time-series forecasting algorithms with LLMs for interpretation of outputs. System is exposed via a lightweight chatbot interface built in Streamlit.
- Custom Prophet models are used as the core detection engine with LLM context engineering automated via LangChain tool binds, a vector database, and a Retrieval Augmented Generation (RAG) node.

## Education

Georgia Institute of Technology – MS in **Analytics**, GPA: 3.9/4.0 2025

University of California, San Diego – MS in **Structural Engineering**, GPA: 3.9/4.0 2018

University of California, San Diego – BS in **Structural Engineering**, GPA: 3.8/4.0 2017

## Technical Skills

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|---|---|---|---|
| **Programming** | Python, Docker, Visual Basic, R | **Data & ETL** | Airflow, SQL (Both OLAP & OLTP) |
| **Cloud** | AWS, Terraform | **Visualization** | Tableau, PowerBI, Python |