Wesley Lau

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**Professional Experience**

**Data Engineer** | National Cancer Institute | Contract2022 – 2025

* Enhanced data architecture by integrating 2 systems into the centralized database, improve accessibility and scalability.
* Designed and implemented custom ETL pipeline using Python, streamlining data transformation and integration from structural format (Postgres, .tsv files) to non-structural format used in Neo4j database.
* Built event-driven ETL automation with AWS Lambda function with Python that triggered the ETL process based on S3 uploads, reducing cost by 20%.
* Created data visualization with data from the Neo4j database to streamline data analysis processes in Jupyter notebook.

**Data Engineer** | United States Department of Homeland Security | Contract2021 – 2022

* Coordinated efforts with SME and key stakeholders to define data policy; established an effective governance framework.
* Devised a migration plan for integrating 30+ datasets from multiple systems to the data warehouse.
* Built interactive dashboards in Power BI leveraging the data repository, leading to more informed decision-making processes help start 2 initiatives.
* Wrote and maintained a SQL query to decrease the processing burden on Tableau Server, reducing report generation time by 60%.

**Data Analyst** | FEMA | Contract2018 – 2021

* Constructed data pipelines with AWS Glue to seamlessly ingest and transform legacy datasets from Oracle and Postgres into AWS S3 data lake for enhanced accessibility.
* Designed and implemented AWS Athena query system to retrieve and process data from AWS S3 data lake, enabling faster insights for the data science team.
* Collaborated with stakeholders to create standardized data models and enforce consistency across relational databases (AWS Aurora, Oracle) and non-structural repository (AWS S3, DynamoDB).
* Developed Python script to extract, transform, and load (ETL) data from Oracle to DynamoDB in support for the frontend application.
* Created interactive Power BI reports leveraging data from the S3 data lake, simplifying and streamlining the grants lifecycle process across FEMA's 40-plus grant programs

**Data Analyst** | Flagstar Bank| Contract2017-2018

* Developed and deployed an efficient custom ETL framework that parsed complex XML structures along with JSON datasets into MongoDB; streamlined data processing workflows, saving approximately 30 hours per month.

**Data Analyst** | First Guarantee Mortgage Company | Contract2016 - 2018

* Designed a comprehensive data visualization dashboard leveraging Qlik Sense to convey complicated data sets to the business Analysts for improving customer’s experience.
* Engineered a robust Talend ETL pipeline to seamlessly transfer large datasets from an Oracle database into MongoDB; increased data accessibility for business analysts by ensuring integration was completed within two hours daily.

**Education**

**Olivet Nazarene University** Bourbonnais, IL

Bachelor of Engineering, Major in Electrical Engineering2012 – 2016

**Other**

**Technical Skills**: Data Warehouse, ETL/ ELT, Change Management, Data Governance

**Tools and software**: Python (PySpark, dbt, Pandas, PySpark, SQLAlchemy), PL/SQL, T-SQL, RDBMS (SQL Server, Postgres, Oracle, MySQL), Non-structural data store (MongoDB, Neo4j, XML, Json), Node JS, Tableau, Power BI, Excel, AWS, Git, Docker, Jira

**Certification**: Meta Database engineer (Jan 2025), Google Advanced Data Analytics Specialization (Mar 2024)