

Alex Lee

Senior BI Engineer

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SKILLS

Python – Pandas, Numpy, Matplotlib, SkLearn, Pytorch, Pyspark, Django | **R** – Tidyverse, Tidymodels, Shiny, Quarto, Plumber
SQL | **Java** | **CSS** | **Tableau** | **Alteryx** | **Databricks** | **Azure** | **Git** | **Statistics** – Experimental Design, Causal Inference, A/B Testing
Machine Learning – Supervised, Unsupervised | **Healthcare Analytics** | **People Analytics** | **English** – Native | **Korean** – Native

EXPERIENCE

Senior Business Intelligence Engineer

Jun. 2023 – Present

Humana

Remote, US

- **Developed** and **deployed** a **LightGBM** model with **Python Sklearn** and **Pyspark**, achieving a testing F1 score of 0.7. Predicted balance and falling issues among customers, ultimately enabling preemptive patient care.
- Built **financial valuations** on intervention programs with **Python** and **R** to support the business decision making process, using **causal inference** techniques like Matching (**Coarsened Exact Matching**, **Propensity Score Matching**), Regression (**Difference-in-Differences**, **Regression Discontinuity Design**), and other statistical methods.

Lead Business Intelligence Analyst

Dec. 2022 – Jun. 2023

The Hershey Company

Hershey, PA

- Upgraded a **Random Forest** model with **Python SkLearn** through feature engineering and hyperparameter tuning, achieving a testing AUC score of 0.88, predicting employee turnover to provide proactive targeting for retention interventions.
- Developed a **real-time REST API** in **R**, integrating **survival analysis**, **PCA**, and **factor analysis** to provide non-technical stakeholders with standardized talent acquisition KPIs and models.
- Led the development of an **ETL pipeline** in **SQL Server**, enabling advanced analytics and automation capabilities on Recruiting.

Senior Analyst, HR Reporting (Senior Data Analyst)

Mar. 2022 – Dec. 2022

The Hershey Company

Hershey, PA

- Conducted Adverse Impact Analysis using **R**, applying hypothesis testing techniques like **Chi-square**, **t-test**, and **ANOVA** to reveal complex relationships within diversity groups and provide strategic guidance.
- Built **financial valuations** on tuition reimbursement policy in **R**, demonstrating its positive impact on performance, retention, and management perception. Resulted in the allocation of over **\$6M** towards the program.

Analyst, HR Reporting (Data Analyst)

Nov. 2018 – Mar. 2022

The Hershey Company

Hershey, PA

- Developed and **automated 7+ end-to-end dashboards and apps** using **R Shiny**, **Tableau**, and **SQL**, enabling continuous monitoring of People Analytics KPIs, leading to direct cost reduction of over **\$100K/year**.
- **Automated** periodic internal and external reports and surveys using **R Markdown**, reducing the overhead hours spend by **90%**. Contributed to earning a Great Place to Work recognition and 3rd place in DiversityInc Top 50.
- Developed a **Tableau dashboard** enabling stakeholders to evaluate the implications of **C19** pandemic on the plant **labor hours**.
- Optimized **data modeling in SQL Server**, resulting in **over 40 hours/month reduction in data preparation time** for users.
- **Designed** and implemented a **R Shiny dashboard** for the living wage initiative, leading to **100%** closure of existing pay gaps.

EDUCATION

Master of Applied Data Science

University of Michigan – Ann Arbor, MI

Apr. 2026 (Expected)

Bachelor of Business Administration

University of North Texas – Denton, TX

Aug. 2015

PROJECTS

[Text to SQL Transformer Model in Pytorch](#)

May 2023

[Using ML to Identify Risk Factors and Predict Fatal Outcomes in Protests](#)

November 2022