YUWEI HSU

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SUMMARY

Prospective Data Professional with a master's degree in Applied Data Science and a strong foundation in Special Education. I have completed various data science projects, including classification, prediction, and optimization, utilizing machine learning, advanced analytics, and data engineering techniques to solve real-world problems. Proficient in Python, SQL, and R, I excel at transforming complex data into actionable insights and building efficient data pipelines. I am eager and committed to applying my skills and expertise in data science roles to address individualized problems and deliver impactful, data-driven solutions.

EDUCATION

University of Chicago, Chicago IL   Sep 2023 — Aug 2024
- Master of Science in Applied Data Science
- GPA: 3.8/ 4.0
- Relevant Coursework: Advanced Machine Learning & Artificial Intelligence, Machine Learning and Predictive Analytics, Data Engineering for Analytics, Data Mining, Data Science for Consulting, Statistical Analysis, Natural Language Processing, Linear and Nonlinear Models

University of British Columbia, Vancouver BC   Sep 2020 — May 2023
- Master of Education in Special Education
- Relevant Coursework: Structural Equation Modelling and Factor Analysis, Correlational Designs and Analysis, Experimental Designs and Analysis, Statistics for Research

National Changhua University of Education, Taiwan   Sep 2015 — Jun 2019
- Bachelor of Education in Special Education

PROJECTS EXPERIENCE

Capstone Project: Loan Default Prediction (UChicago ADS Program in collaboration with Alliant Credit Union)   Mar 2024 — Aug 2024
- Collaborated closely with the data science team, reporting directly to senior risk management executives at Alliant Credit Union to align the project with strategic goals.
- Developed and implemented advanced machine learning models using logistic regression and XGBoost in a two-stage model. The process involved sophisticated feature engineering, rigorous cross-validation, and precise model tuning to optimize performance for risk management enhancement.
- Achieved an 83% recall rate in identifying potential loan defaults. Our strategic interventions and a 10% recovery rate on identified defaults led to a reduction in projected losses by $2.92 million, significantly boosting the credit union's operational efficiency and risk mitigation capabilities.

Fake News Detection
- Developed a classification model to accurately distinguish between real and fake news, addressing misinformation challenges, particularly in democratic processes in Taiwan and the USA.
- Employed an NLP pipeline with TF-IDF for feature extraction, and built models using Logistic Regression, Decision Tree, Random Forest, and SVM, incorporating cross-validation for model evaluation.
- Achieved approximately 90% accuracy with the SVM model, enhancing the reliability of information consumed by the public.

Food Safety Prediction
- Advanced food safety in Chicago by developing a predictive model to forecast food inspection outcomes.
- Utilized regular expressions, tokenization, and stemming algorithms for data preprocessing; visualized data trends using Python.
- Achieved 93% accuracy in predicting inspection outcomes, aiding in prioritizing health and safety measures.

Inventory Management Optimization
- Enhanced inventory management and sales strategies, leading to improved business efficiency and profitability.
- Designed and implemented a relational database using SQL and developed an Entity-Relationship Diagram (EER) to visualize data relationships.
- Created a Tableau dashboard for business intelligence, enabling stakeholders to make informed strategic decisions.

EXPERIENCE

ROC Army Command of the Ministry of National Defense   Dec 2019 — Apr 2020
Standing Soldier Reserve Service

- Completed military service, demonstrating strong discipline, commitment, and resilience—qualities essential for managing complex data projects.
- Developed leadership and teamwork skills through rigorous training and collaborative tasks, enabling effective communication and project management in diverse team environments.
- Gained valuable experience in high-pressure environments, honing problem-solving and decision-making abilities—critical for addressing data-related challenges and optimizing workflows.

Starbucks   May 2016 — July 2016
Barista (Part-Time)

- Collaborated with team members to ensure efficient operations during peak hours, strengthening my ability to work under pressure and manage time effectively.
- Developed strong communication skills by interacting with a diverse customer base, improving my capacity to gather requirements and communicate results clearly in team settings.
- Maintained accuracy and attention to detail in a fast-paced environment, skills that are transferable to data analysis and ensuring data quality.

SKILLS

Programming Languages: Python, R, SQL
Machine Learning / Deep Learning: Scikit-learn, Supervised Learning (Regression, Classification), Unsupervised Learning (Clustering, Dimensionality Reduction), Predictive Modeling, Neural Networks, RNN, CNN, Attention, Transformer, TensorFlow, PyTorch
Data Processing / Analytics: Data Preprocessing, Data Mining, Feature Engineering, Natural language processing
Data Visualization: Tableau, Matplotlib, Seaborn