Hongling Lei

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Website | GitHub | LinkedIn
Python, Java, SQL, R, Stata, HTML

EDUCATION

Carnegie Mellon University   Pittsburgh, PA
Master of Information Systems Management, Business Intelligence and Data Analytics. GPA 3.93   08/2021 – 12/2022
- Courses: Reinforcement Learning, Deep Learning, Computer Vision, Distributed Systems, Machine Learning, Unstructured Data Analytics (NLP), Object-Oriented Programming in Java, Data Structures

Xiamen University   Xiamen, China
Bachelor of Economics, Finance. GPA 3.81   09/2016 – 06/2020
- **University of California, Berkeley** | *Semester Exchange*. GPA 3.95
- **Nanyang Technological University, Singapore** | *Summer Exchange*. GPA 5.0

PROFESSIONAL EXPERIENCE

PPG Industries   Pittsburgh, PA
AI/ML Intern, AI/ML Center of Excellence   05/2022 – 08/2022
- Constructed 15+ time-series forecasting models including ARIMA, Exponential Smoothing and Prophet to predict finished goods demand for inventory optimization, improving the status-quo forecast accuracy by 17%
- Developed a Python-based Auto-Forecaster that takes any time series, experiments with 10+ forecasting algorithms, self-tunes hyper-parameters and recommends the best model, shortening the iteration cycle from weeks to 5 min
- Derived key drivers of demand fluctuations with explainable AI (XAI) techniques like SHAP and LIME

Tencent   Shanghai, China
Data Scientist Intern, Public Data Science Department   04/2021 – 07/2021
- Conducted causal inference with algorithms like Causal Bayesian Networks, X-Learner and Causal Forest to analyze reasons behind customer behavior on Tencent's streaming platforms, increasing user satisfaction rating by 11%
- Deployed an inference pipeline that automates feature engineering, machine-learning modeling and future interventions, putting everything into production for practical decision-making with live data

DiDi Global   Beijing, China
Data Analyst Intern, Decision Support Department   09/2020 – 11/2020
- Supported business and strategy decisions by extracting and analyzing billions of data points on Apache Hive
- Designed a market sizing model with SQL and Excel, correctly predicting driver and order growth rates during holidays and thus alleviating traffic burdens in 14 Chinese metropolitan areas
- Created and monitored business dashboards that can update data and visualize product metrics weekly

Bairong Technology   Shenzhen, China
Data Scientist Intern, Financial Technology Department   05/2020 – 08/2020
- Built a semi-supervised learning model using the MixMatch algorithm with PyTorch to classify customers into different groups based on their probabilities of default, achieving 90% prediction accuracy
- Developed an automated report generation program to calculate performance indicators, graph statistical distributions, produce analytical summaries and create formatted slideshows for clients, boosting team efficiency

PROJECTS

Unsupervised Speech Recognition (GANs)   04/2022
- Implemented unsupervised audio-to-text transformation with the wave2vec_U algorithm, enabling speech recognition for low-resource languages without sufficient training labels

Object Tracking System   03/2022
- Constructed a target tracking system for both template matching and motion detection with the Lucas-Kanade method

Facial Recognition (CNNs)   02/2022
- Built a face recognition application that achieved 82% accuracy on classification and 0.96 AUC on verification

Augmented Reality with Planar Homographies   02/2022
- Conducted real-time image and video AR projections through interest point matching and homography estimation

Grocery Master   10/2021
- Developed software that allows users to search for a product, shows available options at nearby grocery stores and compares their nutritional information by live-scraping Target, Walmart, and Trader Joe's websites

SKILLS

Technical: Machine Learning Frameworks (PyTorch, scikit-learn, sktime, OpenCV, pandas, NumPy), Database (HiveQL, MySQL), Cloud (Google Colab, Azure, AWS), Big Data (Spark, Hadoop, MLlib)
Leadership: Mentored underrepresented high schoolers for AI projects through the Artificial Intelligence Pathways Institute