

# Hongling Lei

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[Website](#) | [GitHub](#) | [LinkedIn](#)

Python, Java, SQL, R, Stata, HTML

## EDUCATION

### Carnegie Mellon University

*Master of Information Systems Management, Business Intelligence and Data Analytics.* GPA 3.93

Pittsburgh, PA

08/2021 – 12/2022

- Relevant Courses: Deep Learning, Computer Vision, Distributed Systems, Machine Learning, Unstructured Data Analytics (NLP), Object-Oriented Programming in Java, Data Structures

### Xiamen University

*Bachelor of Economics, Finance.* GPA 3.81

Xiamen, China

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

*AI/ML Intern, AI/ML Center of Excellence*

Pittsburgh, PA

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

*Data Scientist Intern, Public Data Science Department*

Shanghai, China

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

*Data Analyst Intern, Decision Support Department*

Beijing, China

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

*Data Scientist Intern, Financial Technology Department*

Shenzhen, China

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:** Cloud (Google Colab, Azure, AWS), ML Frameworks (PyTorch, scikit-learn, Pandas), Database (Hive, MySQL)

**Leadership:** Mentored underrepresented high schoolers for AI projects through the Artificial Intelligence Pathways Institute

**Languages:** Mandarin Chinese (native), English (bilingual), Korean (beginner)