

# Hongling Lei

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## EDUCATION

### Carnegie Mellon University

*Master of Information Systems Management, Business Intelligence and Data Analytics.* GPA 3.93 Pittsburgh, PA  
Aug. 2021 – Dec. 2022

- Relevant Courses: Deep Learning, Computer Vision, Data Structures for Application Programmers, Object Oriented Programming in Java, Unstructured Data Analytics (NLP), Machine Learning for Problem Solving

### Xiamen University

*Bachelor of Economics, Finance.* GPA 3.81 Xiamen  
Sept. 2016 – Jun. 2020

- Relevant Courses: Mathematical Analysis, Statistics, Probability Theory, Linear Algebra, Econometrics
- **University of California, Berkeley** Berkeley, CA  
*Semester Exchange, Statistics, Computer Science, Business.* GPA 3.95 Jan. 2019 – May 2019
- **Nanyang Technological University** Singapore  
*Summer Exchange, Digital Marketing.* GPA 5.0 Jun. 2018 – Jul. 2018

## PROFESSIONAL EXPERIENCE

### PPG Industries

*AI/ML Intern, AI/ML Center of Excellence* Pittsburgh, PA  
May 2022 – Aug. 2022

- Constructed time-series forecasting models like ARIMA, Exponential Smoothing, and Prophet to predict finished goods demand for inventory optimization, outperforming the status quo forecasts by 17 ppts in accuracy
- Boosted productivity by developing Auto-Forecaster that takes any time series, experiments it with over 10 forecasting algorithms, compares forecast accuracies, and recommends the best model

### Tencent

*Data Scientist Intern, Public Data Science Department* Shanghai  
Apr. 2021 – Jul. 2021

- Conducted causal inference with algorithms like Causal Bayesian Networks, X-Learner, and Causal Forest to analyze treatment effects of key drivers for customer consumption time on Tencent's streaming platforms
- Implemented experiments on user experience with Tencent WeSee, TikTok, and Kuaishou
- Deployed the causal inference pipeline, including modules like feature engineering, machine-learning model training, and future interventions based on analytical insights

### DiDi Chuxing

*Data Analyst Intern, Decision Support Department* Beijing  
Sept. 2020 – Nov. 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 alleviating traffic burdens in 14 Chinese metropolitan areas
- Created and monitored business dashboards that can update data and visualize analytical results weekly

### Bairong Technology

*Data Scientist Intern, Financial Technology Department* Shenzhen  
May 2020 – Aug. 2020

- Built a semi-supervised learning model using the MixMatch algorithm with PyTorch to classify customers into different groups based on credit default risk predictions, achieving 90% accuracy
- Developed an automated report generation program to calculate performance indicators, graph statistical distributions, produce analytical summaries, and create formatted slideshows

## PROJECTS

### Unsupervised Speech Recognition (GANs)

Apr. 2022

- Implemented unsupervised speech-to-text transformation with the wave2vec\_U algorithm, enabling speech recognition for low-resource languages without sufficient training labels

### Lucas-Kanade Tracking

Mar. 2022

- Developed real-time automated object tracking applications for both template matching and motion detection

### 3D Object Reconstruction Based on 2D Images

Mar. 2022

- Reconstructed 3D objects from stereoscopic image pairs using triangulation and the eight-point algorithm

### Facial Recognition (CNNs)

Feb. 2022

- Built a face recognition system that achieved 82% accuracy on classification and 0.96 AUC on verification

### Augmented Reality with Planar Homographies

Feb. 2022

- Conducted real-time image and video AR projections through interest point matching and homography estimation

## TECHNICAL SKILLS

**Programming/Software:** Python (PyTorch, Google Colab, Azure ML), Java, SQL (Hive), R, Stata, HTML

**Languages:** Mandarin Chinese (native), English (fluent, TOEFL 116 with Speaking 30), Korean (beginner)