# Hongling Lei

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## EDUCATION

**Carnegie Mellon University** — Pittsburgh, PA
*Master of Information Systems Management, Business Intelligence and Data Analytics.* GPA 3.93 — *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

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

- **University of California, Berkeley**
  *Semester Exchange, Statistics, Computer Science, Business.* GPA 3.95
- **Nanyang Technological University, Singapore**
  *Summer Exchange, Digital Marketing.* GPA 5.0

## PROFESSIONAL EXPERIENCE

**PPG Industries** — Pittsburgh, PA
*AI/ML Intern, AI/ML Center of Excellence* — *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 a Python-based Auto-Forecaster that takes any time series, experiments it with over 10 forecasting algorithms, compares forecast accuracies, and recommends the best model

**Tencent** — Shanghai, China
*Data Scientist Intern, Public Data Science Department* — *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** — Beijing, China
*Data Analyst Intern, Decision Support Department* — *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** — Shenzhen, China
*Data Scientist Intern, Financial Technology Department* — *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 Languages:** Python, Java, SQL, R, Stata, HTML
**Tools:** Cloud (Google Colab, Azure, AWS), ML Framework (Pytorch, Scikit-Learn, Sktime, Pandas), Database (Hive, MySQL)