

# Jay Chiehen Liao

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4+ years of experience in **Data Science & Machine Learning** • Proficient in **Python** & **R** programming • 10+ **AI/ML competitions**  
6+ years of experience in **Data Analysis & Statistics** • **Git**, **Linux**, **GPU**, **GCP** • 10+ academic presentations in various domains •  
Skilled in communication, model explanation, and problem-solving • **Interdisciplinary** backgrounds

## WORK EXPERIENCE

### FAZZ.COM

#### DATA SCIENTIST (FULL-TIME)

Sep 2022 - present | Taipei, Taiwan (Hybrid)

- Developing a fraud detection system with graph analysis for micro-loan.
- Developed and maintaining detection models for fraudulent transactions with cryptocurrencies.
- Improved the anomaly detection model's performance by about 25% in terms of the true positive rate.
- Conducting financial reconciliation.

### NETWORKS & AI LAB, NCKU

#### RESEARCH AND TEACHING ASSISTANT (PART-TIME)

Aug 2020 - present | Tainan, Taiwan (Hybrid)

- Research topics: Machine learning with graphs, graph neural network (GNN), deep learning for tabular data.
- Managed **Linux** servers with **GPUs**.

### HEALTH BEHAVIOR LAB, NCKU

#### RESEARCH ASSISTANT (PART-TIME)

Jan 2017 - Jul 2020 | Tainan, Taiwan

- Data analysis with **R** & **Python** for 5+ projects.

## EDUCATION

### RENNES SCHOOL OF BUSINESS (RSB)

#### MASTER IN DATA & BUSINESS ANALYTICS (GPA=4.25/5)

Sep 2021 - Apr 2022 | Rennes, France

- Graduation Project: *Identifying Key Features of Standard Essential Patents in Information and Communication Technologies with Explainable Machine Learning*

### NATIONAL CHENG KUNG UNIVERSITY (NCKU)

#### MASTER IN DATA SCIENCE (GPA=4.25/4.30)

Aug 2020 - Aug 2022 | Tainan, Taiwan

- The 1st Place, Academic Performance of The 1st Year
- Thesis: *Learning Graph Structures from Tabular Data for Downstream Classification Tasks* (awarded by Taiwanese Association Artificial Intelligence)

### DOUBLE BACHELOR IN STATISTICS AND PSYCHOLOGY

Sep 2015 - June 2020 | Tainan, Taiwan

## SKILLS

**LANGUAGES** **ENGLISH** Professional working proficiency (**TOEIC 925/990**) **MANDARIN/CHINESE** Native **FRENCH** Elementary

**TECHNICAL SKILLS** **PROGRAMMING** **Python** • **R** • **Ruby on Rails** **MARKUP LANGUAGES** **Markdown** • **R Markdown** • **LaTeX**  
**VERSION CONTROL** **Git** **DATA MANIPULATION** **NumPy** • **Pandas** • **dplyr** • **tidyr** • **SPSS** • **MS Excel**  
**DATA VISUALIZATION** **ggplot2** • **Matplotlib** • **Seaborn** **DATA MANAGEMENT** **MySQL** • **Big Query** • **metabase2**  
**DEVELOPMENT ENVIRONMENT** **VS Code** • **Jupyter** • **RStudio** **OPERATION SYSTEMS** **macOS Intel/M1** • **Linux** • **Windows**  
**MACHINE LEARNING** **PyTorch** • **Scikit-Learn** **GRAPH ANALYSIS** **NetworkX** • **PyTorch-Geometric** **CLOUD COMPUTING** **GCP**

Updated on 8 February 2023

## KEY PROJECTS & AWARDS

### Predictive Modeling for 14-day Unplanned Hospital Readmission Risk by Using Machine Learning Algorithms BMC MEDICAL INFORMATICS AND DECISION MAKING (2021)

- Constructed ML models with promising performance to predict patients' readmission.
- Figured out influential features with model explanations.

**MY ROLES:** Co-first author of the paper • Model constructor

**SKILLS USED:** **Python** • **Catboost** • **Feature Engineering**

### A Mobile App (UPrEPU) to Monitor Adherence to Pre-Exposure Prophylaxis in Men Who Have Sex with Men: A Protocol for a User-Centered Approach Mobile App Design and Development THE JMIR RESEARCH PROTOCOLS (2020)

**MY JOBS:** Conveyed public health rules with pseudo-codes to communicate with development engineers • Data cleaning

**SKILLS USED:** **Pseudo-code** • **Python** • **R**

### **TOP 1** out of 401 teams

#### CHUNGHWA POST BIG DATA COMPETITION 2019

- Established ML models and proposed commercial solutions from the big data (>30GB) to reduce failed delivery rate (about 65%).
- Evaluated the proposed system in terms of ML performances, flexibility, and estimation of cost reduction (USD 376K and 44.8K hrs per year in Taipei City).

**MY ROLES:** **Leader** • **Model constructor** • **Presenter**

**SKILLS USED:** **Python** • **R** • **GBDT** • **Visual machines**

### **TOP 3** out of 859 teams

#### RECOMMENDATIONS OF CREDIT CARD SPENDING CATEGORIES 2021 (E.SUN BANK)

**SKILLS USED:** **Python** • **Transformer** • **GBDT**

### **TOP 25%**

AI CUP FALL 2020 - MEDICAL INFORMATION DE-IDENTIFICATION (DEPT. OF COMPUTER SCIENCE AND INFORMATION ENGINEERING, NCKU)

**SKILLS USED:** **Python** • **NLP** • **Transformer**

**EXCELLENT AWARD** **CERTIFICATE OF STATISTIC ANALYSIS** (THE CHINESE APPLIED STATISTICS ASSOCIATION)

**ADVANCED AWARD (TOP 3%)** **COMPETITION OF STATISTICS** (NCKU)