

# Jay Chiehen Liao

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3+ years of experience in **Data Science & Machine Learning** • Proficient in **Python & R** programming • 10+ **AI/ML competitions**  
5+ 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

## EDUCATION

### RENNES SCHOOL OF BUSINESS (RSB) MASTER IN DATA & BUSINESS ANALYTICS

Sep 2021 - Apr 2022 | Rennes, France

- Graduation Project: *Using Text Analysis to Explore the Role of Standard Essential Patents in Information and Communication Technologies and Artificial Intelligence*

### NATIONAL CHENG KUNG UNIVERSITY (NCKU) MASTER IN DATA SCIENCE (GPA=4.25/4.30)

Aug 2020 - Jul 2022 (expected) | Tainan, Taiwan

- The 1st Place, Academic Performance of The 1st Year (outgoing aboard in the 2nd year)
- Thesis: *Learning Graph Structures from Tabular Data for Downstream Tasks*

### DOUBLE BACHELOR IN STATISTICS AND PSYCHOLOGY Sep 2015 - June 2020 | Tainan, Taiwan

## WORK EXPERIENCE

### NETWORKS & AI LAB, NCKU

#### RESEARCH AND TEACHING ASSISTANT

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 AND TEACHING ASSISTANT

Jan 2017 - Jul 2020 | Tainan, Taiwan

- Research topics: Social networks & sexually transmitted infections, health behavior interventions with technology, adolescent mental health.
- Data analysis with [R](#) & [Python](#) for 5+ projects.

## SKILLS

### TECHNICAL SKILLS

**PROGRAMMING** [Python](#) • [R](#) **VERSION CONTROL** [Git](#)  
**MACHINE LEARNING** [PyTorch](#) • [Scikit-Learn](#)  
**GRAPH NEURAL NETWORK** [NetworkX](#) • [PyTorch-Geometric](#)  
**DATA MANIPULATION** [dplyr](#) • [NumPy](#) • [Pandas](#)  
**DATA VISUALIZATION** [ggplot2](#) • [Matplotlib](#) • [Seaborn](#)  
**DATA MANAGEMENT** [MySQL](#)  
**DEVELOPMENT ENVIRONMENT** [VS Code](#) • [Jupyter](#) • [RStudio](#)  
**MARKUP LANGUAGES** [Markdown](#) • [L<sup>A</sup>T<sub>E</sub>X](#)  
**CLOUD COMPUTING** [Google Cloud Platform](#)  
**OPERATION SYSTEMS** [Linux](#) • [macOS](#) • [Windows](#)

### LANGUAGES

**ENGLISH** [TOEIC 925/990](#) **MANDARIN/CHINESE** Native

## 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](#) • [R](#) • [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 (reduced about 65% eventually).
- 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](#) • [R](#) • [GBDT](#)

**TOP 8**

### BUSINESS MODEL AND BIG DATA ANALYSIS ARTIFICIAL INTELLIGENCE COMPETITION 2020 (TAISHIN BANK)

**MY ROLES:** [Data analyst](#) • [Presenter](#)

**SKILLS USED:** [Python](#) • [R](#) • [Xgboost](#) • [GNNs](#)

**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)