

# Che-Yi Liao

2210 Stone Rd., Ann Arbor

+1 7348816054 | cyliao@gmail.com

## EDUCATION

### University of Michigan – Ann Arbor, USA

Sept. 2019 -

*MS in Industrial and Operations Engineering*

- **Relevant courses in IOE:** Linear Programming I (IOE 510), Stochastic Process I (IOE 515) Cumulative GPA: 3.9/4.0  
Dynamic Programming (IOE512), Stochastic Process II (IOE 516)
- **Relevant courses in Math:** Advanced Calculus I (Elementary Real Analysis) (MATH 451)
- **Relevant courses in EECS:** Programming for Scientists and Engineers (c++) (EECS 402)

### National Chung Hsing University (NCHU), Taiwan

Feb. 2018 - June 2019

*Continuing Education in Applied Mathematics and in Computer Science Engineering*

- Non-degree program that offers official credits to those attending courses alongside undergraduate students
- **Relevant courses in Applied Mathematics:** Introduction to Analysis, Calculus (I, II), Linear Algebra (I, II) Overall GPA: 4.0/4.0
- **Relevant courses in Computer Science Engineering:** Probability, Discrete Mathematics

### National Taiwan Ocean University (NTOU), Taiwan

Aug. 2013 - June 2017

*BBA in Shipping Transportation and Management*

- **Awards:** Kanway Line Scholarship\*2 (for top 2 students in academic year) Overall GPA: 3.3/4.0  
Academic Excellence\*3 (for top 2 students in semester) Last 60 GPA: 4.0/4.0

## RESEARCH & WORK EXPERIENCE

### Research Assistant, CHEPS, University of Michigan at Ann Arbor

Feb. 2020 -

- Research Projects
  - **Surgical Competency** (Simulate result of resident training program to design optimal training policy)
    - Replaced binary competency results with continuous skill competency level using logistic function as learning curve
    - Introduced concept of transfer of skills into current model using logistic function as transfer curve
    - Designed simulation tool in Python to model the length of resident training program given expected skill competency level
  - **COVID-19 GI Recovery** (Simulate impact of limited operation capacity due to spread of COVID-19 on GI endoscopy and paralleled medical procedures)
    - Designed simulation tool in C++ to model average waiting time, number of waiting patients, number of patients exceed signal amount of waiting time, and others in 4 and more priority levels
    - Modeled policies such as Sorted and Substitute and Transfer of Priority Level of Patients

### Supply Chain Analyst, TianTai Co., LTD., Taichung, Taiwan

Feb. 2018 - Sept. 2018

- Decreased delivery monthly costs by 5-7% by offering courier delivery for smaller orders (15% of products)
- Communicated with production sectors, courier delivery companies, and customers to resolve customer complaints about damaged goods, short delivery, and product quality
- Monitored and generated monthly reports on courier delivery companies' service quality and costs expenses

### Supply Chain Intern, Kanway Line Co., LTD., Taipei, Taiwan (only shipper providing one-stop service between Taiwan and inland China)

Feb. 2017 - Sept. 2017

- Researched business opportunities in Vietnam, and produced comprehensive report for Chair of Board
- Analyzed shipping times, ships' special features and conditions, transportation volume, and fees of 5 competing companies operating same sea lanes between Taiwan and Southeastern China
- Devised VBA model to compare revenue and profit of 31 sites in inland China, which led to business strategies reform

### Passenger Marketing Intern, China Airlines Co., LTD., Taipei, Taiwan (airline with largest market share in Taiwan)

June 2016 - Sept. 2016

- Analyzed weekly sales numbers of outbound flights from Taiwan to China, and devised pricing strategies
- Assisted in planning European Christmas market packages, which attracted more than 80,000 visitors in just three days
- Announced weekly press release on tours to Japan and Thailand
- Participated in organizing exhibition at 2016 Taipei International Travel Fair; increased sales number by 30%

## SKILL & INTEREST

**Computer Language:** C++; Python; LINDO; AMPL; CPLEX

**Research interests (Tools):** Markov Decision Process; Reinforcement Learning; Simulation; Optimization

**Research interests (Application):** Healthcare; Operation Management; Transportation