# Pei-Chen (Lorna) Yen

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## SUMMARY

Research Assistant with a B.A. and M.A. in Finance and 6 years of experience in route optimization algorithm design, route planning system development, and industry financial analysis. Excited to tackle real-world problems by developing advanced technology and leveraging analytics. Seeking to advance my education and research experience in computer science/data science with a focus on Artificial Intelligence.

## RESEARCH AND WORK EXPERIENCE

**Graduate Research Assistant**                    Institute of Statistical Science, Academia Sinica, Taipei, Taiwan

*Advisor: Prof. Frederick Kin Hing Phoa*                              *Full Time, Mar 2019 − Present*

- **Transfer Technology Invention: The AIoT Integrated Points-to-Route Optimization (AIoT-iPRO) System for Logistics and Delivery Services**

  Responsibilities and Achievements
  - Invent a map-to-network mapping algorithm based on real maps for distance matrix generation.
  - Develop a PSO-style route optimization algorithm that focuses on the problems in discrete domains to address the Traveling Salesman Problem.
  - Improve the route optimization algorithm performance for real-world applications; current results outperform the ACO method for small-scale TSP problems.
  - Prototype the route optimization solution via Flask framework and Docker: Package the algorithm programming, set up user interface, draw routing results via Google Maps API Service, and dockize with Postgres and Nginx-uWSGI on Ubuntu system.
  - Published Transfer Technology Innovation (Docket Number: 06T-1090623).

- **Transfer Technology Custom Development: Routing system for multi-trucks with time window constraint for a leading food company in Taiwan**
  - Define company's routing problem and search related publications on multi-constrained vehicle routing problems.
  - Design a two-stage model for vehicle routing issues with time windows which is based on "Cluster first, Route Optimization second".
  - Build customized scheduling and routing application for additional constraints such as driver work schedules and super customers; provide scheduling results with table and visualization map.

**Investment Banking Analyst**                          Horizon Securities Co., Ltd., Taipei, Taiwan

Responsibilities and Achievements                                *Full Time, Jul 2014 − Sep 2017*
- Conducted analysis and due diligence as a major book-runner for the Uniflex Technology Inc. IPO (TWSE: 3321).
- Analyzed 5+ companies in electronics and cosmetics industries from financial, operational, and industry perspectives to create memorandum for internal committees.
- Worked with associate to develop 30+ presentations and pitch files for client executives and boards for providing financial and strategic advice.
- Advised clients on official documents such as annual reports, prospectuses, and roadshow files.

## PUBLICATION

**Yen, Pei-Chen** and Frederick Kin Hing Phoa (2021). Traveling Salesman Problem via Swarm Intelligence. *Advances in Swarm Intelligence* Springer Volume **12689**, 106-115.

## AWARDS

**3rd XBRL Software Design Competition - Investment Ratings System- First prize**

*Project Designer - EBO Valuation Model Building*                          *Jan 2014 − Jul 2014*
- Designed an innovative security selection model with the EBO valuation method based on public information, including all listed companies, and fundamental corporate analysis.
- Grouped all companies into three main industries: financial, construction and general industry to demonstrate various valuations based on different industry characteristics.
- Collaborated cross-functionally with four IT professionals who led the design, integration and deployment of the designed EBO valuation model into the investment rating system.

# EDUCATION

**Fu Jen Catholic University**                                                    Taipei, Taiwan
*Single subject study (Assessed mode), Bachelor's Program in Software Engineering and Digital Innovation Application*
- **Coursework:** C Language                                          *Feb 2021 − June 2021*
- **Overall Grade:** 82 /100

**National Taipei University of Technology**                                       Taipei, Taiwan
*Single subject study (Assessed mode), Department of Electronic Engineering*       *Sep 2019 − Jan 2020*
- **Coursework:** Discrete Mathematics
- **Overall Grade:** 98/100

**Fu Jen Catholic University**                                                     Taipei, Taiwan
*Single subject study (Assessed mode), Department of Mathematics*                  *Sep 2017 − Jane 2018*
- **Coursework:** Calculus I, Calculus II, Linear Algebra I, Linear Algebra II, Mathematical Statistics I, Mathematical Statistics II, Probability Theory
- **Overall Grade:** 86.74/100

**National Sun Yat-sen University**                                                Kaohsiung, Taiwan
*Master of Business Administration in Finance, Advisor: Prof. Der-ming Lieu*        *Sep 2012 − Jane 2014*
- **Coursework:** Valuation Methods, Accounting, Security Market Microstructures, Financial Statement Analysis, Mergers and Acquisitions
- **Thesis**: Empirical Analysis of Big Data Using EBO Model- Application of XBRL Data in Taiwan's Market
- **Achievement**: First prize in 3rd XBRL Software Design Competition - Investment Ratings System
- **Overall GPA:** 3.84/4.30

**Fu Jen Catholic University**                                                     Taipei, Taiwan
*B.Sc. in Business Administration in Finance and International Business*            *Sep 2007 − Jane 2011*
- **Extracurricular Activities:**
  - Department Women's Volleyball Team Captain: Led 30 students in volleyball training and intercollegiate competitions.
  - Director of Activities Planning, FJU Financial Club: Hosted three financial courses in partnership with financial institutes; prepared and arranged teaching of basic financial knowledge to ~80 members and attendees

# REFERENCES

- Dr. Frederick Kin Hing Phoa (Research Fellow, Institute of Statistical Science. Academia Sinica) - fredphoa@stat.sinica.edu.tw
- Dr. Jun-Jie Pan (Assistant Professor, Department of Mathematics, Fu Jen Catholic University) - jackpan@math.fju.edu.tw
- Brian Chiou (Vice President, Horizon Securities Co., Ltd.) - gstock.chiou@honsec.com.tw
- Dr. Der-Ming Lieu (Adjunct Faculty, Professor, National Sun Yat-sen University) - dmlieu@hotmail.com