

# Pei-Chen (Lorna) Yen

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## SUMMARY

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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

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### 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

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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

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### 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

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### Fu Jen Catholic University

Taipei, Taiwan

*Single subject study (Assessed mode), Bachelor's Program in Software Engineering and Digital Innovation Application*

- **Coursework:** C Language
- **Overall Grade:** 82 /100

*Feb 2021 – June 2021*

### 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 – June 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 – June 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 3<sup>rd</sup> 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 – June 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

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- 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