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JOU-CHEN (Anna) LIU ↗

Education

Master Double Degree Program

Sep. 2023 – Dec. 2025 (Expected)

Karlsruhe University of Applied Science (Hochschule Karlsruhe) - Germany | GPA: X

- *Master of Computer Science and Business Information Systems, Department of Computer Science and Business Information Systems (Informatik und Wirtschaftsinformatik)*
- *Courses: Artificial intelligence, Information Security, User Centered Design, IT Project Management, etc.*

National Taiwan University of Science and Technology – Taiwan, R.O.C | GPA: 4.1

- *Master of Business Administration, Department of Information Management*
- *Courses: Data Mining, Artificial Intelligence and Business Analytics, Multimedia Information Systems, Software Engineering and Management, Advanced Topics on Information Security, Cryptography, Applying Large Language Models in Cybersecurity Systems, Cloud Practices and Site Reliability Engineering, etc.*

National Central University – Taiwan, R.O.C | GPA: 3.59

Sep. 2019 – June 2023

- *Bachelor of Business Administration, Department of Information Management*
- *Minor Specialty: Programming Design in the Department of Computer Science Information Engineering*

Languages & IT Skills

Mandarin: Native

English: Fluent / Tests dispensed by ETS: TOEIC 760 | CEFR B1

IT Software: Python, Java, C#, C, C++, HTML, CSS, JavaScript, Vue.js, React.js, MySQL, SQL, Android Studio

Technical skill: Full-Stack Development, Data Analysis, Machine Learning, Computer Vision, Large Language Model, Natural Language Processing, Microsoft Office

Work Experience

ADD Clothes (ADD 服飾)

Piecework Software Engineer

Apr. 2023 – Now

- Developed an "Inventory and Sales System" using Python, which extracts relevant data from Excel purchase files.
It allows users to input customized details for specific products. The system processes and adjusts all data into the required format, and finally exports an Excel file containing sales information tailored for internal use. This file is utilized for printing product tags and future sales tracking.
- Developed a "Sales Data Email Sending System" using Python, SMTP, MIME, etc.
It facilitates the transmission of daily or specific date sales data to corresponding vendors. Currently, there are 40 vendors. With a single button click, the system automatically sends sales files to each vendor for the current day's sales. For specific dates or vendors, individualized sending can be done through input. This system resolves the company's previous issues of failed and interrupted email transmissions from the original system.

Multicast Information Co., Ltd. (銓聯資訊有限公司)

Information Assistant Intern

Apr. 2023 – Aug. 2023

- Full-Stack Web Development
- Android Studio App Development
- Data Processing
- System Document Writing

College Graduation Project

(APP) CAN - Music Emotion Recognition Application

Feb. 2022 – Nov. 2022

- Building an application cooperating the topics of music and emotion.
- We facilitate the user experience of services for 89% of listeners on the online streaming platform by connecting music with people's emotions.
- Applying skills such as fine-tuning BERT model, BeautifulSoup, Librosa, K-means Clustering, and front-end development.

Contest & Awards

International ICT Innovative Services Awards 2022 (Innoserve Awards)

Nov. 2022

- Winner of the Best Innovation Award of IP (Intellectual Property) in Taiwan

International ICT Innovative Services Awards 2022 – Preliminary

Sep. 2022

- Winning second place in preliminary in ICT (Informations and Communications) contest

Leadership & Volunteer Experience

Volunteer, 2024 2nd Quantum Revolution Assembly CONvention, QRACON, Taiwan

Group Leader, 2020 Graduation Project Carnival of MIS Department, National Central University

Captain, The Women's Volleyball team of MIS Department, National Central University

Volunteer Captain & Schoolwork Tutoring volunteer, Kind Kids Group, National Central University

Activity lead & Volunteer, 2023 Tzu Chi Youth Global Humanities Education Exchange, Taiwan and Malaysia

Secretary, Tzu Chi Collegiate Association, Taoyuan in Taiwan

Volunteer Curation Captain & Schoolwork Tutoring volunteer, Tzu Chi Youth Online Learning Companion, Taiwan

Self-Introduction

My name is Jou Chen, Liu. I am passionate about exploring the development of information technology and applications, embracing challenges, and enthusiastic about learning new things. Also, I put my passion for serving society into action.

My undergraduate project is to create a personalized emotional companion APP that combines music and emotion analysis. In the team, I was mainly responsible for lyric emotion analysis, designing functions for integrating mood changes, some front-end and back-end. Also, the project won the "International ICT Innovative Services Awards 2022".

The research area for my master's double degree at NTUST in Taiwan is Quantum Networks, with a special focus on routing design and maximizing throughput in quantum networks. In my research, based on quantum bits (qubits) and quantum gates, I explore how to design efficient quantum network topologies to reduce communication latency and improve network performance. I also focus on maximizing the overall throughput of quantum communication networks, considering optimization issues under different protocols and communication scenarios.

The research area for my master's double degree at HKA in Germany is software testing, focusing on improving the efficiency and quality of test case generation using language models. My master's thesis proposed a method combining the CodeT5+ language model and Multi-Objective Reinforcement Learning (MORL). The core objective is to automatically generate unit test cases that balance syntactic correctness, executability, and coverage diversity from natural language requirement descriptions and function prototypes. Courses I took included artificial intelligence, information security, user centered design, IT project management, etc. In addition, I am continuously learning professional knowledge and practical skills such as large language model, machine learning, cybersecurity, software engineering, etc., to comprehensively enhance my information capabilities and broaden my perspective.