Szu-Ju Chen

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Education

National Taiwan University, B.S. in Computer Science and Information Engineering   Sep. 2022 – Jun. 2025
- **Selected Courses:** Web Retrieval and Mining, Natural Language Processing, Computer Vision, Information Retrieval and Extraction, Computer Vision Practice with Deep Learning, Applied Deep Learning, Machine Learning
- Ranking: ;GPA: 4.15/4.3

National Taiwan University, Creativity and Entrepreneurship Program   Sep. 2023 – Jun. 2024
National Taiwan University, B.S. in Information Management   Sep. 2021 – Jun. 2022
- GPA: 4.17/4.3

Publications

Retrieving the Right Law: Enhancing Legal Search with Style Translation, SIGIR2025 Short Paper

Szu-Ju Chen, Jing Jin, Sheng-Lun Wei, Chien-Hung Chen, Hsin-Hsi Chen

10.1145/3726302.3730246

Research Experience

MACHI Program in DATA Lab, Dr. Xia Ben Hu – Rice University, United States   Feb. 2025 - Mar. 2025
- Applied dynamic routing frameworks and decision algorithms to multi-agent visual reasoning tasks
- Achieved a 7% improvement in accuracy and reduced processing time by 50% compared to SOTA approach

Information Retrieval Lab, Dr. Pu Jen Cheng – National Taiwan University, Taiwan   Sep. 2003 – Jan. 2025
- Explored on image retrieval using VQ-VAE indexing and contrastive learning for autoregressive retrieval
- Developed a hybrid recommender system integrating semantic features from language models with behavioral data from collaborative filtering, enhancing personalization for music genre and keyword-based searches
- Preprocessed millions of public music datasets; extended user input using the ChatGPT-3.5 API; trained a LightGCN model on playlist-track interactions; combined outputs from semantic and behavioral models for recommendations

Work Experience

Software Engineer, Google – New Taipei City, Taiwan   Aug. 2025 – Present
- Supported production applications and addressed user-reported UI issues within tight timelines
- Migrated and modernized backend routes for Pixel Clock's in-app services, improving system maintainability
- Contributed to early milestones of Pixel Calculator's new feature by creating components and implementing unit tests

Machine Learning Scientist Intern, Appier – Taipei City, Taiwan   Sep. 2024 – May 2025
- Resolved one-epoch overfitting issue and improved click-through rate prediction accuracy by 5%
- Enhanced recommendation performance by tuning ranking models and experimenting with feature engineering

Software Engineer Intern, Google – New Taipei City, Taiwan   Jun. 2024 – Sep. 2024
- Built an Android package for updatable onboarding flows, enabling updates and bug fixes within launch timelines
- Designed data transfer workflows between modules; implemented core logic, UI, and user flows using Java and XML
- Refactored legacy components into reusable libraries, added unit tests, and ensured quality through internal team testing (passed 7/7 test cases), leading to successful production launch

Student Training Engineering Program Intern, Google – New Taipei City, Taiwan   Jun. 2023 – Sep. 2023
- Integrated multiple network speed testing features into an internal Android app, improving usability for modem testing
- Implemented FTP speed testing in both Python for automation and Java for app integration
- Delivered precise and reliable performance under 5G environments, demonstrated to and adopted by the internal team

Projects

Information Retrieval and Extraction Final Project   Dec. 2024
- Developed retrieval algorithms for legal question answering using related Taiwanese laws
- Trained a Bi-Encoder model and fine-tuned Taiwan-LLaMA-3B using original user queries and LLM-rewritten queries

Computer Vision Practice with Deep Learning Final Project   Dec. 2024
- Designed a pipeline combining visual grounding and image inpainting for seamless indoor object replacement
- Fine-tuned models on a custom-collected dataset; evaluated and compared PowerPaint and BrushNet performance

Creativity and Entrepreneurship Program - Konnect   Sep. 2023 - Jun. 2024
- Led development of a cross-platform app connecting fans and idols, enabling activity tracking and content sharing
- Built the app from scratch using React Native; integrated Google Maps, user posting, real-time data access, and GCP backend services; successfully delivered MVP and passed initial testing

2024 MakeNTU: Explorer Hackathon - Ctrl F Autonomous Storage Robot   Mar. 2024 - May 2024
- Developed backend services using Firebase API for controlling a smart storage robot via a simple user interface
- Supported training for object recognition models; improved classification accuracy and item categorization

Applied Deep Learning Final Project   Apr. 2023 - Jun. 2023
- Investigated Chinese grammar error correction using various language models, including BART, mT5, Taiwan-LLaMa
- Finetuned google/mt5-small on an open-source dataset; evaluated with self-designed Exact-Match and M^2 metrics

Machine Learning Final Project   Apr. 2023 - Jun. 2023
- Predicted song danceability using a custom-built model and handcrafted feature engineering
- Explored regression, decision trees, random forests, and boosting techniques for prediction
- Ranked 1st for least overfitting and 5th on the private leaderboard in final evaluation

Awards

Dean's List Award of Spring 2025   Jun. 2025

Second Place of the final presentation of MACHI Program   Mar. 2025
Poster: "A Dynamic Routing Framework for Multi-Agent Visual Question Understanding"

National Taiwan University Fu Bell Scholarship   Dec. 2024
Top 10% of students in the Computer Science and Information Engineering department

Dean's List Award of Fall 2024   Dec. 2024
Ranked 1st out of 155 students in the Computer Science and Information Engineering department

Excellence Award of National Taiwan University CSIE Research Exhibition   Jun. 2024
Poster: "Song Recommendation Combining LLM and Recommender - focus on semantic and behavior"

National Taiwan University Fu Bell Scholarship   Sep. 2021
Representative of the Information Management department

Extracurricular Activities

National Taiwan University International Companion for Learning   Sep. 2024 - Dec. 2024
- Collaborated with international peers to deliver educational resources to children in rural areas
- Enhanced engagement through culturally tailored lessons and fostering cross-cultural collaboration skills

Hualien Yuli Township Dayu Elementary School Volunteer Service   Jan. 2024
- Led an 8-member team in organizing a three-day educational camp for rural elementary school students
- Taught two courses: natural science experiments and an introduction to media literacy

Hualien Fengbin Community Volunteer Service   Jan. 2023
- Participated in community clean-up activities in the local area
- Taught three courses: career exploration, Taiwanese geography, and personal boundaries awareness

Skills

Programming Languages: C++, C, Python, Java, JavaScript

Machine Learning: training and fine-tuning on LLMs, recommendation systems, computer vision

App Development: Android native apps, cross-platform apps using React Native

Languages: Mandarin(native), English(fluent: TOEIC 905, TOEFL 104)