

Tien-Hsuan Wu

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Rm G01, G/F Hui Oi Chow Science Building,
The University of Hong Kong, Hong Kong

Education

PhD, The University of Hong Kong (2021)

Department of Computer Science

Research Interests: Legal NLP, Data Mining, Knowledge Bases

BEng in Computer Science, The University of Hong Kong (2017)

First Class Honours

Minor in Finance

Working Experience

Lecturer, Innovation Academy, Faculty of Engineering, HKU (2024/11-present)

Teaching Assistant (Part-time), School of Computing and Data Science (see Teaching Section)

Post-doctoral Fellow,

Faculty of Law, HKU (2023/07-2024/10)

Department of Computer Science, HKU (2021/11-2023/07)

Research Assistant, Center for E-Commerce Infrastructure Development, HKU (2016/10-2017/08)

Development and testing of *Hermes Business Messaging Gateway*.

Teaching

Lecturer, HKU

- Project Supervision in Innovation Academy
 - AI Historian Assistant in HKU Engineering, Museum (HKU-UBC collaboration project) and HKU Library
Supervised development of question-answering systems for history topics using Azure **OpenAI API (GPT, text-to-speech)**, **Vertex AI (Gemini)**, and **Qwen-VL**.
 - Social Work Interactive Chatbot
Guided students in building a client simulation chatbot for social work training using **Azure OpenAI API (GPT, text-to-speech)** and **Qwen**. Led **fine-tuning of BERT and Llama** models to analyze counseling skills.
 - MTR In-House Chatbot
Oversaw development of an **on-premises LLM**-powered chatbot for frontline maintenance workers and trainers to ensure data confidentiality.
 - Legal Teaching and Learning—CLIC-Chat and Moot Court
Guided LLM to emulate legal reasoning through **prompt engineering**. **Finetuned embedding** to increase retrieval accuracy.

- Workshop Coordination
 - AI and Prompt Engineering Workshops (June 13th, 20th & 24th, 2025)
 - Exploring RAG Technologies: **Multimodal RAG** (March 5th, 2025)

Teaching Assistant, HKU

- (2024 Fall) (2023 Fall) (2021 Fall) COMP7103 Data Mining
 - Designed and delivered tutorials on **classification**, **text mining** (**topic modeling**, **word embedding** and **vector database**), and **collaborative filtering**
 - Prepared self-study materials on clustering with Python programming
 - Designed and marked assignments
- (2022 Spring) COMP2119 Introduction to Data Structures and Algorithm
 - Designed and delivered a tutorial on recursion and dynamic programming
 - Designed and marked assignments
- (2019 Spring) COMP3311 Legal Aspects of Computing
 - Marked an assignment on computer crimes
- (2018 Spring) COMP3278 Introduction to Database Management Systems
 - Designed and delivered a tutorial on MongoDB
 - Designed and marked assignments on SQL, relational algebra

Talks

Michael MK Cheung, **Tien-Hsuan Wu**, Mingruo Yuan, Ben Kao, Anne SY Cheung and Felix WH Chan. “Navigating the Legal Matrix with the Legal Question Bank and CLIC” at Law via the Internet, University of Vienna, Austria (2023/11/7)

Leyang Huang, Daniel Hicks, Xiang Chen, Ben Kao and **Tien-Hsuan Wu** “On the Use of Large Language Model and Legal Knowledge Base in Community Legal Education” at Law via the Internet, University of Vienna, Austria (2023/11/7)

Tien-Hsuan Wu “大模型於大眾法律教育的應用 Application of Large Language Models in Public Legal Education” at the 6th International Forum on Computational Law, Tsinghua University, China. (2023/10/21)

Publications

Mingruo Yuan, Ben Kao and **Tien-Hsuan Wu**. “QBR – A Question-Bank-Based Approach to Fine-Grained Legal Knowledge Retrieval for the General Public.” To appear in IJCAI 2025.

Lei Yang, **Tien-Hsuan Wu**, Chun Kit Chui and Chun Kit Chan. “Equipping Academic Makerspaces with Artificial Intelligence Elements.” 2025 ASEE Annual Conference.

Chun Kit Chui, Match Wai Lun Ko, Kei Yiu Mo, Chun Kit Chan, Lei Yang and **Tien-Hsuan Wu**. “Overseas Team Building for Student Leaders in Academic Makerspaces.” 2025 ASEE Annual Conference.

Titus T.H. Ng, **Tien-Hsuan Wu**, Benjamin Minhao Chen, Yongxi Chen and Ben Kao. “A Multi-Stage Prompting and RAG Approach to Generating Legal Analysis in Common Law Systems.” International Conference on Legal Knowledge and Information Systems (JURIX2024). Legal Knowledge and Information Systems, pages 387-388. IOS Press, 2024.

Tien-Hsuan Wu, Ben Kao and Michael M. K. Cheung. “Judgment Retrieval Made Easier Through Query Analysis.” International Conference on Legal Knowledge and Information Systems (JURIX2023). Legal Knowledge and Information Systems, pages 299-304. IOS Press, 2023.

Mingruo Yuan, Ben Kao, **Tien-Hsuan Wu**, Michael M. K. Cheung, Henry W. H. Chan, Anne S. Y. Cheung, Felix W. H. Chan and Yongxi Chen. “Bringing legal knowledge to the public by constructing a legal question bank using large-scale pre-trained language model.” Artificial Intelligence and Law (2023): 1-37.

Guowen Yuan, Ben Kao and **Tien-Hsuan Wu**. “CEMA – Cost-Efficient Machine-Assisted Document Annotations.” In The Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI-23), pages 11044-11050, AAAI, 2023.

Tien-Hsuan Wu, Ben Kao, Henry Chan and Michael MK Cheung. “Judgment Tagging and Recommendation Using Pre-trained Language Models and Legal Taxonomy.” International Conference on Legal Knowledge and Information Systems (JURIX2022). Legal Knowledge and Information Systems, pages 255-260. IOS Press, 2022.

Tien-Hsuan Wu, Ben Kao, Felix Chan, Anne SY Cheung, Michael MK Cheung, Guowen Yuan and Yongxi Chen. “Semantic Search and Summarization of Judgments Using Topic Modeling.” International Conference on Legal Knowledge and Information Systems (JURIX2021). Legal Knowledge and Information Systems, pages 100-106. IOS Press, 2021.

Tien-Hsuan Wu, Ben Kao, Anne SY Cheung, Michael MK Cheung, Chen Wang, Yongxi Chen, Guowen Yuan and Reynold Cheng. “Integrating Domain Knowledge in AI-assisted Criminal Sentencing of Drug Trafficking Cases.” International Conference on Legal Knowledge and Information Systems (JURIX2020). Legal Knowledge and Information Systems, pages 174-183. IOS Press, 2020.

Tien-Hsuan Wu, Ben Kao, Zhiyong Wu, Xiyang Feng, Qianli Song, Cheng Chen. “MULCE: Multi-level Canonicalization with Embeddings of Open Knowledge Bases.” Web Information Systems Engineering – WISE 2020. Lecture Notes in Computer Science, pages 315-327. Springer, 2020.

Zhiyong Wu, Ben Kao, **Tien-Hsuan Wu**, Pengcheng Yin, Qun Liu. “PERQ: Predicting, Explaining, and Rectifying Failed Questions in KB-QA Systems.” Proceedings of the 13th International Conference on Web Search and Data Mining, pages 663-671. ACM, 2020.

Tien-Hsuan Wu, Zhiyong Wu, Ben Kao, and Pengcheng Yin. “Towards practical open knowledge base canonicalization.” In Proceedings of the 27th ACM International Conference on Information and Knowledge Management, pages 883-892. ACM, 2018.