

Willy Chung

AI Research Engineer

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EDUCATION

- CentraleSupélec, Paris-Saclay University** **Gif-sur-Yvette, France**
Master of Engineering - Applied Mathematics 09.2019 - 04.2024
- GPA 3.97/4.33 - Relevant courses: Optimization, Model Representation and Analysis, Signal Processing, Algorithmic & Complexity, Big Data Management, Parallel and Distributed Programming, Automation
- Hong Kong University of Science and Technology** **Clear Water Bay, Hong Kong**
Master of Philosophy in Electronic and Computer Engineering - Supervisor Prof. Pascale Fung 09.2021 - 10.2023
- Thesis: "Instruction-Tuned Large Language Models for Zero-Shot Task-Oriented Dialogue Systems"
 - Relevant courses: Advanced Deep Learning Architecture, Statistical Learning for Text and Graph Data, Advanced Topics in AI and Healthcare

WORK EXPERIENCE

- Hong Kong University of Science and Technology** **Clear Water Bay, Hong Kong**
Teaching Assistant (ELEC1200 - 80 Bachelor | ELEC6910Y - 18 MPhil/PhD) 01.2022 - 06.2023
- Designed lab and assessment on word embeddings and Transformer models for 18 postgraduate students
 - Delivered lectures on generative language models (BERT, GPT-2) for implementation, training and integration
- Secondary reviewer for EMNLP 2023 & ACL 2023** **Clear Water Bay, Hong Kong**

PUBLICATIONS

- InstructTODS: Large language models for end-to-end task-oriented dialogue systems** [\[paper\]](#) **NLINT 2023**
W. Chung, S. Cahyawijaya, B. Wilie, H. Lovenia, P. Fung **ACL 2023**
- Cross-lingual cross-age group adaptation for low-resource elderly speech emotion recognition** [\[paper\]](#) **INTERSPEECH 2023**
S. Cahyawijaya*, H. Lovenia*, W. Chung*, R. Frieske, Z. Liu, P. Fung
- A multitask, multilingual, multimodal evaluation of chatgpt on reasoning, hallucination, and interactivity** [\[paper\]](#) **AACL 2023**
Y. Bang, S. Cahyawijaya, N. Lee, W. Dai, D. Su, B. Wilie, H. Lovenia, Z. Ji, T. Yu, W. Chung, Q. V Do, Y. Xu, P. Fung
- Pick: Polished & informed candidate scoring for knowledge-grounded dialogue systems** [\[paper\]](#) **AACL 2023**
B. Wilie, Y. Xu, W. Chung, S. Cahyawijaya, H. Lovenia, P. Fung
- Contrastive Learning for Inference in Dialogue** [\[paper\]](#) **EMNLP 2023**
E. Ishii, Y. Xu, B. Wilie, Z. Ji, H. Lovenia, W. Chung, P. Fung
- InstructAlign: High-and-Low Resource Language Alignment via Continual Crosslingual Instruction Tuning** [\[paper\]](#) **SEALP 2023**
S. Cahyawijaya, H. Lovenia, T. Yu, W. Chung, P. Fung
- Every picture tells a story: Image-grounded controllable stylistic story generation** [\[paper\]](#) **LaTeCH-CLfL 2022**
H. Lovenia, B. Wilie, R. Barraud, S. Cahyawijaya, W. Chung, P. Fung **COLING 2022**
- Clozer: Adaptable data augmentation for cloze-style reading comprehension** [\[paper\]](#) **RepL4NLP 2022**
H. Lovenia*, B. Wilie*, W. Chung*, M. Zeng*, S. Cahyawijaya, S. Dan, P. Fung **ACL 2022**

PROJECTS

Center for Artificial Intelligence Research (CAiRE, HKUST)

Clear Water Bay, Hong Kong

- **InstructTODS: LLMs for End-to-End Task-Oriented Dialogue Systems** [\[code\]](#) 12.2022 - 08.2023
 - Developed a plug-and-play framework in Python to use LLMs as task-oriented dialogue systems with databases
 - Conducted a comprehensive study of LLM capability to replace end-to-end task-oriented chatbots in zero-shot
 - Evaluated LLM off-the-shelf capabilities for task-oriented subtasks: dialogue state tracking, intent classification
- **Grace, Humanoid Robot for Hospital Care** 01.2022 - 04.2023
 - Designed the dialogue module of the robot in Cantonese using Dialogflow ES to interact with patients
 - Developed and integrated the webhook backend using Python (Flask) to customize the fulfillment interaction
 - Delivered presentations as technical advisor to healthcare professionals (nurses and doctors)
- **Virtual Well-being Companion with Emotion Detection for Elderly People** [\[code\]](#)[\[paper\]](#) 08.2021 - 02.2023
 - Designed an anthropomorphic virtual chatbot using Dialogflow for elderly individuals in community care
 - Investigated cross-age and cross-lingual transferability for elderly speech recognition across 4 languages
 - Presented our accepted publication for oral presentation at INTERSPEECH 2023 in Ireland

Mechanics, Soils, Structures and Materials Laboratory (CentraleSupélec)

Gif-sur-Yvette, France

- **AI-aided asteroseismology: reproducing gravitational waves** 09.2020 - 04.2021
 - Trained and evaluated RNN and LSTM models for automatic generation of gravitational waves
 - Implemented a GAN-based learning method for joint distribution matching for unidimensional data

Coffreo

Paris, France

- **Time series forecasting** 03.2020 - 07.2020
 - Processed and analyzed 4.000.000+ real-world data features for time series forecasting
 - Implemented and trained ARIMA, SVM and RF models to predict temporary worker demand

SKILLS

Languages: French (native), English (fluent, IELTS : 8.5/9), Cantonese (native), Chinese (intermediate)

Programming: Python (scikit-learn, pytorch, transformers), SQL, MATLAB, bash, linux, node.js, Flask

Software: Git, MongoDB, Docker, Neo4j, SolidWorks, DialogFlow, AWS, Google Cloud Platform

Courses: Deep Learning Specialization, Natural Language Processing Specialization, ML Ops Specialization