Willy Chung

Engineering Graduate

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French postgraduate engineer student currently enrolled in a dual master's degree with CentraleSupélec, University Paris-Saclay and the Hong Kong University of Science and Technology. I am a motivated and interdisciplinary individual with a passion for natural language processing and data science, with a specific interest in dialogue systems and large language models.

EDUCATION

Hong Kong University of Science and Technology, *Clear Water Bay, Hong Kong* 09.2021 - 08.2023

- **Master of Philosophy in Electronic and Computer Engineering**
- 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

CentraleSupélec, Paris-Saclay University, *Gif-sur-Yvette, France* 09.2017 - 09.2021

- **Master's degree in Engineering - Applied Mathematics**
- **Bachelor's degree in Engineering - Applied Mathematics**
- GPA 3.97/4.33 - Relevant Courses: Optimization, Model Representation and Analysis, Algorithmic & Complexity, Massive Data Management, Parallel and Distributed Programming, Automation, High Performance Computing

RESEARCH & PROJECTS

Center for Artificial Intelligence Research (HKUST), *Clear Water Bay, Hong Kong* 09.2021 - present

Large Language Model Evaluation [publication] 12.2022 - 04.2023

- Collaborated with a 12-person team to evaluate ChatGPT's capabilities in dialogue, reasoning, and multimodal understanding
- Conducted experiments for task-oriented dialogue systems and contributed to scientific paper writing

Virtual Well-being Companion with Emotion Detection Capability for Elderly People [publication] 06.2022 - present

- Designed an anthropomorphic virtual chatbot for elderly individuals in community care.
- Constructed a public Cantonese audio dataset for cross-age and cross-lingual speech emotion recognition.

Grace, Humanoid Robot as Occupational Therapist for Hospitals 02.2022 - present

- Collaborated with three groups (Robotics, HCI, CV) to design the system architecture, taking responsibility for the NLP team
- Developed the dialogue module for the robot to conduct a full questionnaire with hospital patients
- Conducted safety discussions and risk analysis for potential real-world deployment

Care Navigation Portal for Elderly and Caregivers in Hong Kong 12.2021 - present

- Built a bilingual Cantonese and English chatbot to assist elderly and caregivers in accessing healthcare services
- Integrated the chatbot into a public web portal in collaboration with local NGOs and the Hong Kong Jockey Club

Mechanics, Soils, Structures and Materials Laboratory (CentraleSupélec), *Gif-sur-Yvette, France* 09.2020 - 04.2021

AI-aided asteroseismology: reproducing starquakes and gravitational waves

- Collaborated with a 3-person team to study the automatic generation of gravitational waves using RNN and LSTM
- Organized and compiled extensive bibliography for the team to acquire basic theoretical astrophysic knowledge
- Implemented a GAN-based adversarial learning method for joint distribution matching for unidimensional data

WORK EXPERIENCE

Hong Kong University of Science and Technology, *Clear Water Bay, Hong Kong* 01.2022 - 06.2023

Teaching Assistant (ELEC1200 - 80 students, ELEC6910Y - 18 students)

- Delivered three tutorials, designed and graded two NLP assignments on word embeddings and transformer models.
- Provided feedback on course projects for postgraduate students

Coffreo, *Paris, France* 03.2020 - 07.2020

Data Science Student Intern

- Processed and analyzed 4.000.000+ real-world data features for anonymization and preliminary analysis
- Performed benchmarking of classical time series forecasting models, including ARIMA, SVM, and Random Forest.
- Developed an interactive choropleth map for visualizing feature distribution across regions, aiding strategic decision-making for the organization.

SKILLS

Languages: French (native), English (fluent), Cantonese (native), Chinese (Intermediate) - IELTS: 8.5/9
Technical: Advanced - Python, SQL, Dialogflow | Intermediate - MATLAB, Github, Docker, MongoDB, Neo4j, SolidWorks
Voluntary work: Secondary reviewer for EMNLP 2022 | Elected secretary general of CosmiCS, Astronomy Student Association

GRANTS

INTERSPEECH Travel Grant (2023) | Postgraduate Studentship (2021-2023) | International Mobility Grant (2021)