Chia-Wei, Wu

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NLP Engineer, Prompt Engineer

EDUCATION

National Chengchi University Sep 2022—Present

- Master in Computer Science, *advised by Prof. Tsai-Yen Li and Prof. Hen-Hsen Huang.*
- Research interests: Natural Language Generation, Prompt Engineering, Information Retrieval, Text Classification, Recommendation System and Sentiment Analysis.

National Chiayi University Sep 2019-June 2022

- Bachelor of Applied Mathematics. Proficient in subjects: Linear Algebra, Discrete Mathematics, and Differential Equation.
- Essay: Using the least squares method to investigate the growth of honey crystallization. *advised by Prof. Jia-Wen Chen.*

WORK EXPERIENCE

Project Learning-oriented Assistant—Institute of Information Science, Academia Sinica July 2023—Present

advised by Prof. Hen-Hsen Huang

- Design a novel information retrieval algorithm to reranking text lists with multiple granularities and low cost.
- Overcoming the input constraints of large language models on long text information retrieval.

Project Learning-oriented Assistant—Integrative Strategic Value Management System Sep 2022—Present

advised by Prof. Anne Wu

- Assist the IT product development department in drafting product operation manuals.
- Administrative matters: word processing, assistance with large-scale events.

Member—National Chengchi University Floodfire Research Team Sep 2022—Present

advised by Prof. Yu-Chung Cheng

- Collaboratively discussing and developing research strategies to address emerging social issues, such as the 2024 presidential election.

Part-time Job—College of Commerce, NCCU Sep 2022—Jan 2024

- Manage and control the use of electronic devices in the computer class.

SKILLS

- **Software:** Python, R, Git, Maple, Latex and Excel.
- **Language:** Chinese, English and Taiwanese.

PROJECTS

Explore the emotional intentions of social media users towards ChatGPT [Paper]
advised by Prof. Yi-Chieh, Wu

- Keyword identification and pre-trained models like BERT analyze the semantics of text.
- Automated web crawlers collect social media data, such as Facebook and PTT.

OTTO - Multi-Objective Recommender System competition, 576th [Kaggle]

- Exploratory data analysis involves analyzing data, and finding noise.
- Design ensemble learning to integrate co-visitation and Word2Vec result.

Banking Apps Reviews Classification competition, 9th [Kaggle]

- Train classifiers to evaluate intentions from their comments, such as XGBoost and SVM.

Multiple data science projects in the R programming environment [GitHub]

- Building predictive models in the fields of biology and finance.
- Developing interactive visualization systems in Shiny. [Demo]
- Review Santander Customer Satisfaction Contest with R. [GitHub]

The application of classification and clustering to analyze the Spotify

- The classification method extracts features to refine the clustering results.
- Evaluate the performance of clustering and classification methods.

AWARDS AND CERTIFICATIONS

- Academic Research Award, National Chengchi University, 2024
- Invitee, Chulalongkorn University CBS, 2024
- TOEIC Green Certificate, 2024
- SQL for Data Science, Coursera, 2022

Autobiography

I am Chia-Wei Wu, a graduate student in Computer Science at NCCU. My interests are related to the natural language processing, such as generative artificial intelligence, information retrieval, and sentiment analysis. During my academic journey, I not only maintain an actively progressive learning attitude but also gain practical insights through participating in competitions and projects to understand real-world needs. Additionally, to broaden my horizons and absorb new knowledge, I serve as a research fellow at the Center for iSVMS and Academia Sinica , where I take on assigned tasks with a proactive attitude. Specifically, at the iSVMS, I am primarily responsible for designing user manuals for database systems. At the Academia Sinica, I continue to specialize in exploring the potential of improving existing natural language

processing methods through prompt engineering, aiming to better assist downstream tasks using large language models. Finally, benefiting from the influence of mathematics, I adhere to the spirit of "bold assumptions, cautious verification", combining meticulous logical thinking with unlimited creative imagination to face all future challenges.