POTSAWEE MANAKUL

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RESEARCH INTERESTS

- Large Language Model: Multimodal LLMs, Adapting LLMs for Low-resource Languages
- Low-resource NLP: Cross-lingual representations, Benchmark and Corpora Creation (Thai)
- Automatic Evaluation: Hallucination Detection, LLM Evaluation

EDUCATION

University of Cambridge

Cambridge, UK

Ph.D. in Information Engineering (NLP)

Oct 2019 - May 2024

- Work in the Machine Intelligence Lab under the supervision of <u>Prof. Mark Gales</u>
- Recipient of the Cambridge International & St John's College Scholarship
- Research Areas: Natural Language Processing (NLP) and Machine Learning (ML)
 → Summarization, Question-Answering, Language Model Evaluation, Hallucination Detection
- First-author publications at top-tier NLP/Speech conferences, e.g. ACL, EMNLP, *ACL, InterSpeech

University of Cambridge

Cambridge, UK

M.Eng. in Information and Computer Engineering

Oct 2018 - Jun 2019

- First-Class Honour with Distinction
- Research project on deep learning for grammatical error detection and correction

University of Cambridge

Cambridge, UK

B.A. in Information and Computer Engineering

Oct 2015 - Jun 2018

• top 3% on average in my engineering cohort of about 300 students

EXPERIENCE

SCB 10X Bangkok, Thailand

Senior Research Scientist

Nov 2023 – Present

- · Lead research efforts and collaborate with Cambridge and VISTEC
- Work on "Typhoon Multimodal" (Audio & Vision)
- Work on "Typhoon-7B" state-of-the-art open-source Thai large language model
- Work on Thai LLM Evaluation Benchmarks, including HELM-Thai
- Part of a founding team (Typhoon Team) for a new AI research lab of the SCBX group, previously under Venture Builder programme with a goal of creating a start-up focusing on LLMs

Amazon Berlin, Germany

Applied Scientist Intern

Sep 2021 - Mar 2022

- Developed video summarization model which improved automation rate by 4%
- Published a paper at the Amazon Computer Vision Conference (ACVC) 2022

University of Cambridge

Cambridge, UK

Undergraduate Research Intern

Jun 2018 - Aug 2018

- Developed deep learning models for grammatical error detection
- Co-authored a paper accepted at ICASSP 2019

MediaTek Cambourne, UK

Software Engineering Intern Jun 2017 – Sep 2017

HealtheraCambridge, UKSoftware Engineering InternJun 2016 – Aug 2016

*Google Scholar: https://scholar.google.com/citations?hl=en&user=dVgn6boAAAAJ

- A. Liusie, **P. Manakul** and M.J.F. Gales, "LLM Comparative Assessment: Zero-shot NLG Evaluation through Pairwise Comparisons using Large Language Models", in **EACL** 2024 (main).
- P. Manakul, A. Liusie and M.J.F. Gales, "SelfCheckGPT: Zero-Resource Black-Box Hallucination Detection for Generative Large Language Models", in EMNLP 2023 (main).
- P. Manakul, A. Liusie and M.J.F. Gales, "MQAG: Multiple-choice Question Answering and Generation for Assessing Information Consistency in Summarization", in AACL 2023 (main).
 - → Area Chair Award (Generation and Summarization)
- P. Manakul, Y. Fathullah, A. Liusie, V. Raina, V. Raina, and M.J.F.. Gales, "CUED at ProbSum 2023: Hierarchical Ensemble of Summarization Models", in BioNLP Workshop at ACL 2023.
 - → Best-performing system on the Problem List Summarization shared task
- P. Manakul and M.J.F. Gales, "Sparsity and Sentence Structure in Encoder-Decoder Attention of Summarization Systems", in EMNLP 2021 (main).
- P. Manakul and M.J.F. Gales, "Long-Span Summarization via Local Attention and Content Selection", in ACL 2021 (main).
- P. Manakul and M.J.F. Gales, "CUED_SPEECH at TREC 2020 Podcast Summarisation Track", in Text REtrieval Conference (TREC) 2020.
 - → Won 1st place in the Spotify Podcast Summarisation Track, out of 8 teams & 22 systems
- P. Manakul, M.J.F. Gales, L. Wang, "Abstractive Spoken Document Summarization Using Hierarchical Model with Multi-Stage Attention Diversity Optimization", in InterSpeech 2020.
 - \rightarrow Best Student Paper Finalist

SELECTED HONOURS & AWARDS

ML/AI Awards

- AACL-IJCNLP 2023 Area Chair Paper Award (Generation and Summarization)
- 1st place in the Medical Note Problem List Summarization at the BioNLP Workshop at ACL 2023
- 1st place in the Spotify Podcast Summarization Challenge at TREC 2020 Podcasts Track
- InterSpeech 2020 Best Student Paper Finalist

University Scholarships and Awards

- Cambridge International & St John's College Scholarship (Full funding for PhD) 2019
- UARP (Undergraduate Academic Research Project) 2018
- Winifred Georgina Holgate Pollard Memorial Prize (University Prize) 2017
- BP 1st Year Prize (for achieving top 1% in 1st-year undergraduate engineering) 2016

Olympiads

- Silver Medal from 45th International Physics Olympiad (IPhO) in Astana, Kazakhstan 2014
- Gold Medal from 15th Asian Physics Olympiad (APhO) at National University of Singapore 2014
- Bronze Medal from 14th Asian Physics Olympiad (APhO) in Bogor, Indonesia 2013

PROFESSIONAL SERVICES

Reviewer

• ACL Rolling Review: 2024 - Present

• NeurIPS: 2023, 2024

• ICLR: 2024

• ICML: 2023, 2024

• AAAI: 2025

• InterSpeech: 2023, 2024

• COLM: 2024

• IEEE Transactions on Audio, Speech, and Language Processing: 2022, 2023, 2024

Updated: August 2024