POTSAWEE MANAKUL

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EDUCATION

University of Cambridge — Cambridge, UK
Ph.D. Candidate in Information Engineering (Computer Science) — *Oct 2019 – Present*

- Work in the Machine Intelligence Lab under the supervision of Prof. Mark Gales
- Recipient of the Cambridge International & St John's College Scholarship (Full funding for PhD)
- Research Focus: Generative Language Models, Summarization, Question-Answering, Text Evaluation
- Publication at top-tier NLP/Speech conferences, including ACL, EMNLP, *ACL, and InterSpeech

University of Cambridge — Cambridge, UK
B.A. and M.Eng. in Information and Computer Engineering — *Oct 2015 – Jun 2019*

- **top 1%** in the first-year undergraduate examination
- **top 3%** in the second-year undergraduate examination
- **top 4%** in the third-year undergraduate examination
- **Honour with Distinction** in the fourth-year (Masters Program)
  → Research project on deep learning for grammatical error detection and correction

INDUSTRY EXPERIENCE

SCB 10X — Bangkok, Thailand
AI Researcher — *Nov 2023 – Present*

- Develop state-of-the-art open-source Thai LLM – Typhoon-7B
- The project is under Venture Builder with the goal of establishing an AI startup

Amazon — Berlin, Germany
Applied Scientist Intern — *Sep 2021 – Mar 2022*

- Project: Weakly Supervised Video Summarization for Target Video Classification Task
- A research paper at the Amazon Computer Vision Conference (ACVC) 2022
- Community Shopping Science Team with Hani Al-Shater and Nam Khanh Tran

Machine Intelligence Lab, Engineering Department — 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*

- Developed GUI tools for a 5G simulator using C#/.NET and SQLite

Healthera — Cambridge, UK
Software Engineering Intern — *Jun 2016 – Aug 2016*

- Designed and worked on the front-end part of the company's website

SELECTED PUBLICATIONS

- 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.
  → Best Student Paper Finalist
- Y. Lu, M. J. Gales, K. M. Knill, **P. Manakul**, L. Wang, Y. Wang, "Impact of ASR Performance on Spoken Grammatical Error Detection", in **InterSpeech** 2019.
- K. M. Knill, M. J. Gales, **P. Manakul**, A. Caines, "Automatic grammatical error detection of non-native spoken learner English", in **ICASSP** 2019.

Invited Talks

- ML Collective - Deep Learning: Classics and Trends (DLCT), August 2023
  Link: https://mlcollective.org/dlct/
  Topic: LLM Hallucination Detection and SelfCheckGPT
- Washington Post Interview, May 2023
  Link: https://wapo.st/3IMgiZw
  Topic: AI Hallucination
- ALTA Technology Seminar (Cambridge University Press & Assessment), November 2022
  Topic: Assessing Information Consistency in Summarization
- Speech Seminar (Engineering Department, Cambridge University), May 2021
  Topic: Long Sequence-to-Sequence Modelling and Summarization

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
- Wright Prize (Academic Prize, St John's College) — 2019, 2018, 2017, 2016
- UARP (Undergraduate Academic Research Project, St John's College) — 2018
- Winifred Georgina Holgate Pollard Memorial Prize (University Prize) — 2017
- Earle Prize (St John's College Year Group Prize) — 2017
- BP 1st Year Prize (sponsored by BP, based on the 1st year exam) — 2016
- Gaskell Prize (St John's College Year Group Prize) — 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
- ICLR 2024
- NeurIPS 2023
- ICML 2023
- InterSpeech 2023
- IEEE Transactions on Audio, Speech, and Language Processing 2022, 2023

Teaching Experience at Cambridge

- Third-year Undergraduate: 3F7 Information Theory and Coding
- Second-year Undergraduate: 2P7 Vector Calculus, Linear Algebra, Probability
- MPhil in Machine Learning and Machine Intelligence: MLMI13 Introduction to NLP
- First-year Undergraduate: Engineering Lego Lab

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