KaShun Shum (Henry)

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https://shumkashun.github.io

PROFILE

Detailed-oriented, responsible and committed computer science student, with a get-it-done, high-quality, and work-as-a-team spirit.

Coding Language: **Python, R**, **SQL**, Matlab. Tools: **Pytorch**, **Transformers**, **Megatron**, **Deepspeed**, etc.

Research Area in NLP : Data-centric Pretraining, Trustworthy LLM, Knowledge Distillation, Prompt Learning, Hallucination...

EDUCATION

Hong Kong University of Science and Technology (HKUST) QS Top100 Sep 2024 - Jun 2026
Doctor of Philosophy (PhD) in Computer Science Hong Kong

- **Hong Kong PhD Fellowship Scheme (HKPFS) Supervisor:** Prof. Junxian He

Hong Kong University of Science and Technology (HKUST) QS Top100 Sep 2022 - Jul 2024
Master of Philosophy (MPhil) in Computer Science Hong Kong

- Postgraduate Scholarships with CGA 4.06 / 4.3 (Top 1%) **Supervisor**: Prof. Tong Zhang
- Related Courses: Machine Learning (A+), Deep Learning in NLP (A+), Computer Networks (A+) ...

Hong Kong University of Science and Technology (HKUST) QS Top100 Sep 2018 - Jun 2022
Bachelor of Science in Data Science and Technology Hong Kong

- Multiple Dean's List

RESEARCH EXPERIENCE

FIRST: Teach A Reliable Large Language Model Through Efficient Trustworthy Distillation Jun 2024

K. Shum, M. Xu, J. Zhang, Z. Chen, S. Diao, H. Dong, J. Zhang, and O. Raza (Accepted to EMNLP 2024)

- Despite the great accuracy fine-tuning achieves, we found it is still far away from satisfactory trustworthiness due to "tuning-induced mis-calibration". In this paper, we delve deeply into why and how mis-calibration exists in fine-tuned models, and how distillation can alleviate the issue. Then we further propose a brand new method named Efficient Trustworthy Distillation (FIRST), which utilizes a small portion of teacher's knowledge to obtain a reliable language model in a cost-efficient way.

Automatic Prompt Augmentation and Selection with Chain-of-Thought from Labeled Data Feb 2023

K. Shum*, S. Diao*, and Tong Zhang (Accepted as Findings of EMNLP 2023)

- Propose a new strategy, AutomateCoT, that can bypass human engineering of CoT by automatically augmenting rational chains, pruning low-quality chains, and selecting the optimal combination of several rationale chains by employing a variance-reduced policy gradient strategy to estimate the significance of each example.

LMFlow: An Extensible Toolkit for Finetuning and Inference of Large Foundation Models Jun 2023

S. Diao*, R. Pan*, H. Dong*, **K. Shum**, J. Zhang, W. Xiong, and Tong Zhang (Best Demo Paper in NAACL 2024)

- We open source this toolkit on Github with ~ 8000 ☆.

... More papers/projects can be found in my personal website above/Google Scholar.

PROFESSIONAL EXPERIENCE

Search and Strategy Department, Baidu China Co.,Ltd. Jun 2021 - Sep 2021
Natural Language Processing Engineer, Intern Bei Jing

- Responsible for the design and development of the search algorithm under the e-commerce shopping scene to improve the shopping search experience of users.
- Optimized **Query-Doc correlation** calculation and **ranking** of search results by utilizing **Query semantic understanding** related tech in the search ranking layer.
- Optimized ERNIE-based Retrieval Model to adapt good's property information, the Recall rate at 90 precision raise from 82.6% to 88.9% compared to previous launched model.

HONORS & AWARDS

Hong Kong PhD Fellowship Scheme (HKPFS) April 2024
Top 10 in Hong Kong Cyber Security New Generation Capture the Flag (CTF) Challenge Nov 2021
National First Prize in RoboMaster 2019 Final Tournament Aug 2019
First Place Winner in Kerry Logistic Hackathon 2019 Feb 2019

Licenses & Certifications

Kaggle Expert Jun 2020
Issued by Kaggle