

# Ting-Yun (Charlotte) Chang

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## RESEARCH INTERESTS

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**Inference Efficiency** Reducing LLM serving costs through model quantization and KV cache compression

**Model Interpretation** Diagnosing model behavior and translating scientific insights into actionable methods

## EDUCATION

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**University of Southern California, USA**

*2021 - Spring 2026*

PhD student in Department of Computer Science

(All but dissertation)

**National Taiwan University, Taiwan**

*2018 - 2020*

M.S. in Department of Computer Science and Information Engineering

**National Tsing Hua University, Taiwan**

*2014 - 2018*

B.S. in Department of Computer Science

Rank 2/41; GPA 4.14/4.3

**Tsinghua University, China**

*Fall 2015*

Exchange Student in Department of Computer Science and Technology

## RESEARCH EXPERIENCE

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**University of Southern California**

California, USA

*Research Assistant*

*2021 - Present*

- Advisors: Robin Jia and Jesse Thomason
- KV cache compression on reasoning models with eviction, sparse attention, and quantization (ongoing)
- Studying why low-bit model quantization affects certain examples disproportionately [1]
- Improving LLMs' consistency to prompt variants with model decomposition and efficient weight updates [3]
- Localizing where memorized data resides in LLM parameters and unlearning them [4]
- Improving the stability of in-context learning to prompt choice via data valuation of demonstrations [5]
- Benchmarking continual learning abilities of vision-language models with a suite of multimodal tasks [6]

**Google DeepMind**

New York, USA

*Research Intern*

*Summer 2025*

- Hosts: Xiang Zou, Zun Li, Jiao Sun, and Shyam Upadhyay
- Studying the interplay between RL and post-training model quantization

**Amazon AWS AI**

California, USA

*Applied Scientist Intern*

*Summer 2024*

- Improving the safety of LLMs against jailbreaking attacks with steering

**Academia Sinica**

Taipei, Taiwan

*Research Assistant*

*2020 - 2021*

- PI: Chi-Jen Lu
- Studying which pre-finetuning tasks can improve pretrained language models [7]
- Compressing large image generators and stabilizing GANs training with knowledge distillation [10]

**Amazon Alexa AI**  
*Applied Scientist Intern*

California, USA  
*Spring 2020*

- Hosts: Yang Liu and Dilek Hakkani-Tür
- Improving models' commonsense knowledge with specialized loss terms and learnable knowledge base [8, 9]

**National Taiwan University**  
*Research Assistant*

Taipei, Taiwan  
*2018 - 2020*

- Advisor: Yun-Nung (Vivian) Chen
- Probing the degree of contextualization in ELMo and BERT embeddings using multisense word definitions [11]
- Automated clinical note diagnosis [12]

## PUBLICATIONS

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- [1] **Ting-Yun Chang**, Muru Zhang, Jesse Thomason, and Robin Jia. **Why Do Some Inputs Break Low-Bit LLM Quantization?** EMNLP 2025.
- [2] Ming Zhong, Xiang Zhou, **Ting-Yun Chang**, Qingze Wang, Nan Xu, Xiance Si, Dan Garrette, Shyam Upadhyay, Jeremiah Liu, Jiawei Han, Benoit Schillings, and Jiao Sun. **Vibe Checker: Aligning Code Evaluation with Human Preference**. arXiv 2025. Internship Project.
- [3] **Ting-Yun Chang**, Jesse Thomason, and Robin Jia. **When Parts Are Greater Than Sums: Individual LLM Components Can Outperform Full Models**. EMNLP 2024.
- [4] **Ting-Yun Chang**, Jesse Thomason, and Robin Jia. **Do Localization Methods Actually Localize Memorized Data in LLMs? A Tale of Two Benchmarks**. NAACL 2024.
- [5] **Ting-Yun Chang** and Robin Jia. **Data Curation Alone Can Stabilize In-context Learning**. ACL 2023.
- [6] Tejas Srinivasan, **Ting-Yun Chang**, Leticia Leonor Pinto Alva, Georgios Chochlakis, Mohammad Rostami, and Jesse Thomason. **CLiMB: A Continual Learning Benchmark for Vision-and-Language Tasks**. NeurIPS Datasets and Benchmarks Track 2022.
- [7] **Ting-Yun Chang** and Chi-Jen Lu. **Rethinking Why Intermediate-Task Fine-Tuning Works**. Findings of EMNLP 2021.
- [8] **Ting-Yun Chang**, Yang Liu, Karthik Gopalakrishnan, Behnam Hedayatnia, Pei Zhou, and Dilek Hakkani-Tür. **Go Beyond Plain Fine-tuning: Improving Pretrained Models for Social Commonsense**. IEEE SLT 2021.
- [9] **Ting-Yun Chang**, Yang Liu, Karthik Gopalakrishnan, Behnam Hedayatnia, Pei Zhou, and Dilek Hakkani-Tür. **Incorporating Commonsense Knowledge Graph in Pretrained Models for Social Commonsense Tasks**. DeeLIO Workshop at EMNLP 2020 (best paper award).
- [10] **Ting-Yun Chang** and Chi-Jen Lu. **TinyGAN: Distilling BigGAN for Conditional Image Generation**. Asian Conference on Computer Vision 2020.
- [11] **Ting-Yun Chang** and Yun-Nung Chen. **What Does This Word Mean? Explaining Contextualized Embeddings with Natural Language Definition**. EMNLP-IJCNLP 2019.
- [12] Shang-Chi Tsai, **Ting-Yun Chang**, and Yun-Nung Chen. **Leveraging Hierarchical Category Knowledge for Data-Imbalanced Multi-Label Diagnostic Text Understanding**. LOUHI Workshop at EMNLP-IJCNLP 2019.
- [13] Chao-Chun Liang, Shih-Hong Tsai, **Ting-Yun Chang**, Yi-Chung Lin, and Keh-Yih Su. **A Meaning-based English Math Word Problem Solver with Understanding, Reasoning and Explanation**. COLING 2016: System Demonstrations.

## TEACHING EXPERIENCE

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### Teaching Assistant

USC CS 544 Applied Natural Language Processing, Fall 2024. Instructor: Swabha Swayamdipta.

USC CS 467 Introduction to Machine Learning, Spring 2023. Instructor: Robin Jia.

NTU CS Applied Deep Learning, Spring 2019. Instructor: Yun-Nung (Vivian) Chen.

## PROGRAMMING

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**Languages:** Python, C/C++, Java

**Frameworks:** PyTorch, TensorFlow, Triton, vLLM, verl