XI(SEAN) CHEN

xchen4@umass.edu(citations 200+) ◇ https://melongone.github.io/

EDUCATION

University of Massachusetts Amherst — **Amherst, MA**
- PhD in Computer Science (GPA: 3.9/4) — 2019-present

Central South University — **Changsha, China**
- B.E. in Computer Science (GPA: 3.9/4) — 2014-2018

EXPERIENCE

Amazon (AGI foudation) — **Seattle, WA**
Applied Scientist Intern — 2024.7 - 2024.10
(Incorporated into Amazon internal LLM with a ICML submission, saliently beat existing methods).
- Parameter efficient parallel training for large language models with Quantized LoRA.
- Merged large language models by aligning activation to accelerate multi-task learning
- Online learning with adaptive model-dependent sample importance.

University of Massachusetts Amherst — **Amherst, MA**
Research Assistant — 2019.9 - present
- Zero-shot learning for large language model to retrieve global news covering disasters.
- Built a state-of-art transformer model to analyze global news graph with trillions of edges.
- Developed the largest dataset of multilingual news article pairs with human-in-the-loop active learning framework.
- Designed a cluster-wise active learning framework for extracting events from temporal graph of social texts.
- Quantified country effects on news similarity with greedy factor selection, event detection, and regression.

University of California, Los Angeles — **Los Angeles, CA**
Research Intern — 2018.7 - 2018.12
- Modeled the dynamics of opinions and personalities with probabilistic graph time series.
- Devised an extended EM algorithm for learning the graph time series and get state-of-the-art performance.

Zhipu AI (Chinese OpenAI) — **Beijing, China**
Research Intern — 2018.3 - 2018.9
- Searched and rank scholars with heterogeneous random forest (deployed on prestigious AI platform Aminer).
- Clustered and visualize temporal scientific topics with refined genetic algorithm.

PROJECT

Merge LLM with Online Activation Alignment
- Align activation spaces across LLMs on multi-tasks (e.g. math, coding, and medical).
- Adapt activation weight during parameter-efficient training and sampling for LLM online learning.

LLM Question Answering Generation for Identifying Disasters
- Zero-shot learning prompts for GPT4's precision and recall on searching global news covering disasters.
- Built regression models to quantify country factors with greedy feature selection and event clustering.

Global Multilingual News Graph Learning
- Extract cross-lingual entities and rank similar news article pairs based on rules and active learning classifiers.
- Predict global news network for trillions of pairs with refined multilingual transformer and bi-directional index.

Active learning for temporal events from Social Polls
- Design a cluster-wise active learning framework to recognize temporal events from Twitter poll texts.
- Quantify the evolution of public opinions on social issues with statistical analysis.

Personalized Opinion Graph Time Series Learning
- Model the dynamics of opinions and personalities with probabilistic graph time series.
- Devise an extended EM algorithm for learning the graph time series and get competitive performance.

SELECTED PUBLICATION

Adaptive Activation Alignment for Merging Large Language Models
Xi Chen, Yue Zhang, Akshaya Shanbhogue. Submitted to International Conference on Machine Learning (**ICML**), 2025.

International News Synchrony and Diversity during the Start of Covid-19
Xi Chen, Scott Hale, David Jurgens, Mattia Samory, Ethan Zuckerman, Przemyslaw Grabowicz. International World Wide Web Conference (**The Webconf**), 2024.

Detecting Global Disaster Event with Question Answering on Large Language Model
Xi Chen*, Erica Cai*, Brendan O'connor, Przemyslaw Grabowicz. Submitted to International AAAI Conference on Web and Social Media (**ICWSM**), 2024.

Cluster-wise Active learning for Event Identification from Social Polls
Xi Chen, Mayank Bumb, Vishal Kalakonnavar, Przemyslaw Grabowicz. To appeal, 2024.

A Multilingual Similarity Dataset for News Article Frame
Xi Chen, Scott Hale, David Jurgens, Mattia Samory, Przemyslaw Grabowicz. International AAAI Conference on Web and Social Media (**ICWSM**), 2023.

Multilingual Document-level Similarity
Xi Chen, Ali Zeynali, Chico Camargo, Fabian Flock, Devin Gaffney, Przemyslaw Grabowicz, Scott Hale, David Jurgens, Mattia Samory. International Workshop on Semantic Evaluation (**@NAACL**), 2022.

Modeling Personalized Dynamics of Social Network and Opinion at Individual Level
Xi Chen, Jie Tang, Yizhou Sun. Preprint on Arxiv, 2019.

SKILL

Technique: Large Language Model, Natural Language Processing, Machine Learning, Optimization, Information Retrieval, Data Science, Database
Programming Language and framework: Python, C/C++, R, Pytorch, Spark, Java, SQL, Linux, Matlab

SERVICE

Program Member:

- NAACL(2023)
- ICWSM(2023, 2024)
- SEMEVAL (2022, 2023, 2024)
- IC2S2 (2022, 2023, 2024)

HONOR

NSF Student Travel Award, 2024
UMass CICS best portfolio finalist, 2023.
Research presented at top-tier computer science venues (Webconf, NAACL, ICWSM, TADA, IC2S2).
Nomination for Chinese Exceptional Student (1/6500 ISchool undergrads and grads), 2018.
Ranked global Top50 of Autochess players (50/millions, a world-class strategy game).