# YUFEI LI

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#### RESEARCH INTERESTS

Large Language Model, Efficient Training & Serving Systems, Reliability & Uncertainty, Natural Language Processing

#### **EDUCATION**

University of California, Riverside Sep 2022 – Jun 2025 (Expected) Riverside, CA

Ph.D. in Electrical and Computer Engineering (GPA: 4.0 / 4.0)

University of California, San Diego

Sep 2018 - Jun 2020

M.S. in Electrical and Computer Engineering

San Diego, CA

Xi'an Jiaotong University (XJTU)

Sep 2014 – Jun 2018

B.S. in Mechanical Engineering

Xi'an, China

#### **EXPERIENCE**

**Research Intern** Jun 2024 - Sep 2024

Project: Reinforcement learning for generic rewrite LLM Google DeepMind Mountain View, CA

**Research Intern** May 2022 – Aug 2022

NEC Laboratories America, Inc. Project: Log anomaly detection using dynamic graph

Princeton, NJ

May 2021 - Aug 2021

NEC Laboratories America, Inc. Project: Distantly-supervised information extraction Princeton, NJ

**Research Assistant** 

Aug 2020 – May 2022 Dallas, TX

Research Intern

**Research Intern** 

Project: AI-empowered software with safety

Jul 2019 - Sep 2019

Seek Truth Corporation

University of Texas at Dallas

Project: Pose recognition & character detection

Beijing, China

### **SELECTED PUBLICATIONS** (\* denotes equal contribution)

Y. Fu, Y. Li, W. Xiao, C. Liu, Y. Dong. Safety Alignment in NLP Tasks: Weakly Aligned Summarization as an In-Context Attack. Annual Meeting of the Association for Computational Linguistics (ACL) 2024.

Y. Li, X. Yu, Y. Guo, Y. Liu, H. Chen, C. Liu. Distantly-Supervised Joint Extraction with Noise-Robust Learning. Findings of the Association for Computational Linguistics (ACL Findings) 2024.

Y. Li, Z. Li, W. Yang, C. Liu. RT-LM: Uncertainty-Aware Resource Management for Real-Time Inference of Language Models. IEEE Real-Time Systems Symposium (RTSS) 2023.

Z. Li, A. Samanta, Y. Li, A. Soltoggio, H. Kim, C. Liu. R<sup>3</sup>: On-device Real-Time Deep Reinforcement Learning for Autonomous Robotics. IEEE Real-Time Systems Symposium (RTSS) 2023.

S. Nikkhoo, Z. Li, A. Samanta, Y. Li, C. Liu. PIMbot: Policy and Incentive Manipulation for Multi-Robot Reinforcement Learning in Social Dilemmas. International Conference on Intelligent Robots and Systems (IROS) 2023.

Y. Li, X. Yu, Y. Liu, H. Chen, C. Liu. Uncertainty-Aware Bootstrap Learning for Joint Extraction on Distantly-Supervised Data. Annual Meeting of the Association for Computational Linguistics (ACL) 2023.

Y. Li, Z. Li, Y. Gao, C. Liu. White-Box Multi-Objective Adversarial Attack on Dialogue Generation. Annual Meeting of the Association for Computational Linguistics (ACL) 2023.

S. Li, Y. Li, J. Ni, J. McAuley. SHARE: a System for Hierarchical Assistive Recipe Editing. Conference on Empirical Methods in Natural Language Processing (EMNLP) 2022.

K. Chen\*, Y. Li\*, Y. Chen, C. Fan, Z. Hu, W. Yang. GLIB: Towards Automated Test Oracle for Graphically-Rich Applications. International Conference on the Foundations of Software Engineering (FSE) 2021.

### **PROJECTS**

### Concurrent Training and Serving of Large Language Models on Distributed Systems | PyTorch | Code

- Revealed inefficiencies in traditional "train-then-inference" setups under concurrent LLM workloads, such as continuous serving requests and user-specified post-training alignment feedback
- Developed a dynamic system that efficiently co-locates training and inference tasks on shared resources, optimizing GPU utilization and service-level objectives (SLOs) by runtime resource allocation and execution scheduling

# Reinforcement Learning with Decoupled Rewards for Generic Text Rewriting | Jax, RL5X | Google (internal)

- Introduced a large-scale benchmark dataset for text rewriting across dimensions of factuality, style, and conversation, generated by prompting LLMs, such as Gemini-1.5-Ultra
- Instruction-tuned (SFT) a model and distilled reward models from LLM preferences on sampled SFT responses
- RL fine-tuned the model using decoupled rewards to enhance instruction adherence, coherence, and controllable edits

# Content-aware Dynamic Graphs for Log Anomaly Detection | PyTorch, PyG | Code

- · Configured dynamic attributed graphs by identifying log components and their hierarchical relationships
- · Proposed a GNN-based temporal-attentive transformer for detecting anomalous edges in dynamic graphs

# Assessing the Reusability of Pre-trained Code Embeddings | PyTorch | Code

- Developed a cost-efficient offline framework to assess the generalizability of embeddings in code analysis tasks
- Evaluated the generalizability of existing pre-trained embeddings leveraging semantic metamorphic relationships

### Rethink Negative Sampling in Bayesian Personalized Ranking | PyTorch | Code

- Identified a limitation of popularity-based sampling due to non-uniform negative sampling biases
- Rectified biases by creating tailored negative sampling distributions to boost Bayesian personalized ranking

# Automatic Delivery Vehicle Design | Python, MATLAB | Code

- Simulated a project integrating the Courier and TSP challenges for autonomous delivery vehicle design
- Formulated a path planning algorithm by incorporating the A\* heuristic rules with genetic evolution principles

### **SKILLS**

**Programming:** Python, C, C++, Java, MATLAB, SQL, Bash, HTML, Markdown

Machine Learning: PyTorch, PyTorch-lightning, PyTorch Geometric (PyG), TensorFlow, Jax, Scikit-learn

Miscellaneous: LATEX, Git, Ansys, SolidWorks, AutoCAD, Photoshop

### **HONORS & AWARDS**

### **VEX Robotics International Competitions**

Sep 2016 - Jun 2017

Team Leader & Programmer

Louisville, KY

- Excellent Award and Runner-Up at the VEX Robotics World Championship (RECF) 2017
- Excellent Award and Runner-Up at the VEX Robotics Asia Open 2016
- First-class Award at the VEX Robotics China Open 2016

### **National Encouragement Scholarship**

Sep 2014 - Jun 2017

Personal (Top 10% from XJTU)

Xi'an, China

#### **AREA CHAIR & REVIEWER**

Area Chair: ACL 2024, NAACL 2024

Reviewer: ACL 2025, EMNLP 2023, KDD 2023, CIKM 2022, RTSS 2023, ICSE 2022, FSE 2022