YUFEI LI

RESEARCH INTERESTS

Natural Language Processing/Generation, Machine Learning System, Efficient LLM Training/Inference

EDUCATION

| University of California, Riverside | |
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| Ph.D. in Electrical and Computer Engineering (GPA: 4.0/4.0) | |

University of California, San Diego

M.S. in Electrical and Computer Engineering

Xi'an Jiaotong University (XJTU)

B.S. in Mechanical Engineering

EXPERIENCE

| Graduate Student Researcher | Sep 2022 – Present Riverside, CA |
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| Research Intern NEC Laboratories America, Inc. | May 2022 – Aug 2022 Princeton, NJ |
| Research Intern NEC Laboratories America, Inc. Project: Distantly-supervised Joint Entity and Relation Extraction with Noise-robust Learning | May 2021 – Aug 2021 Princeton, NJ |
| Research Assistant University of Texas at Dallas | Aug 2020 – May 2022 Dallas, TX |
| Research Intern SeekTruth Scientific & Technical Corporation Project: Real-time Pose Recognition for Online Video Stream Character Detection | Jul 2019 – Sep 2019 Beijing, China |

SELECTED PUBLICATIONS (* denotes equal contribution)

Yufei Li, Zexin Li, Wei Yang, Cong Liu. RT-LM: Uncertainty-Aware Resource Management for Real-Time Inference of Language Models. IEEE Real-Time Systems Symposium (RTSS) 2023.

Zexin Li, Aritra Samanta, **Yufei Li**, Andrea Soltoggio, Hyoseung Kim, Cong Liu. R³: On-device Real-Time Deep Reinforcement Learning for Autonomous Robotics. IEEE Real-Time Systems Symposium (RTSS) 2023.

Shahab Nikkhoo, Zexin Li, Aritra Samanta, **Yufei Li**, Cong Liu. PIMbot: Policy and Incentive Manipulation for Multi-Robot Reinforcement Learning in Social Dilemmas. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2023.

Yufei Li, Xiao Yu, Yanchi Liu, Haifeng Chen, Cong Liu. Uncertainty-Aware Bootstrap Learning for Joint Extraction on Distantly-Supervised Data. Annual Meeting of the Association for Computational Linguistics (ACL) 2023.

Yufei Li, Zexin Li, Yingfan Gao, Cong Liu. White-Box Multi-Objective Adversarial Attack on Dialogue Generation. Annual Meeting of the Association for Computational Linguistics (ACL) 2023.

Shuyang Li, **Yufei Li**, Jianmo Ni, Julian McAuley. SHARE: a System for Hierarchical Assistive Recipe Editing. Conference on Empirical Methods in Natural Language Processing (EMNLP) 2022.

Ke Chen*, **Yufei Li***, Yingfeng Chen., Changjie Fan, Zhipeng Hu, Wei Yang. GLIB: Towards Automated Test Oracle for Graphically-Rich Applications. ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) 2021.

Sep 2022 – Jun 2025 (Expected) Riverside, CA Sep 2018 – Jun 2020 San Diego, CA Sep 2014 – Jun 2018

Xi'an, China

PROJECTS

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

Distantly-supervised Joint Entity and Relation Extraction with Noise-robust Learning | PyTorch | Code

- Incorporated a pre-trained transformer into sequence tagging scheme for distantly-supervised joint extraction
- Proposed a bootstrap learning framework with a noise-robust loss to dynamically select high-quality instances

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, Scikit-learn Miscellaneous: LATEX, Git, Ansys, SolidWorks, AutoCAD, Photoshop

HONORS & AWARDS

VEX Robotics International Competitions Team Leader & Programmer • 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)

PROGRAM COMMITTEE & REVIEWER

ACL Rolling Review, EMNLP, KDD, CIKM, RTSS, ICSE, ESEC/FSE, ASE

Sep 2016 - Jun 2017 Louisville, KY

Xi'an, China