# YUFEI LI

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## RESEARCH INTERESTS

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

## EDUCATION

**University of California, Riverside** Sep 2022 – Jun 2025 (Expected)
*Ph.D. in Electrical and Computer Engineering (GPA: 4.0 / 4.0)* Riverside, CA

**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

**Graduate Student Researcher** Sep 2022 – Present
*University of California, Riverside* Riverside, CA

**Research Intern** May 2022 – Aug 2022
*NEC Laboratories America, Inc.* Princeton, NJ

- Project: Content-aware Dynamic Graphs for Log Anomaly Detection

**Research Intern** May 2021 – Aug 2021
*NEC Laboratories America, Inc.* Princeton, NJ

- Project: Distantly-supervised Joint Entity and Relation Extraction with Noise-robust Learning

**Research Assistant** Aug 2020 – May 2022
*University of Texas at Dallas* Dallas, TX

**Research Intern** Jul 2019 – Sep 2019
*SeekTruth Scientific & Technical Corporation* Beijing, China

- Project: Real-time Pose Recognition for Online Video Stream Character Detection

## 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. $R^3$: 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.

## 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** 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

## PROGRAM COMMITTEE & REVIEWER

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