# YUFEI LI

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## Education

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

**University of California, San Diego** — San Diego, CA
M.S. in Electrical and Computer Engineering — *Sep 2018 – Jun 2020*

**Xi'an Jiaotong University (XJTU)** — Xi'an, China
B.S. in Mechanical Engineering — *Sep 2014 – Jun 2018*

## Research Area

Natural Language Processing, Uncertainty Quantification, Efficient Language Model Training & Inference

## Work & Research Experience

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

**NEC Laboratories America, Inc.** — Princeton, NJ
Research Intern — *May 2022 – Aug 2022*
*Project: Content-aware Dynamic Graphs for Log Anomaly Detection*

**NEC Laboratories America, Inc.** — Princeton, NJ
Research Intern — *May 2021 – Aug 2021*
*Project: Distantly-supervised Joint Entity and Relation Extraction with Noise-robust Learning*

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

**SeekTruth Scientific & Technical Corporation** — Beijing, China
Research Intern — *Jul 2019 – Sep 2019*
*Project: Real-time Video Frame Orientation Calibration for Online Streaming*

## Selected Publications (Google Scholar)

**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** Princeton, NJ

- 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** Princeton, NJ

- 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** Dallas, TX

- 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** San Diego, CA

- 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** San Diego, CA

- 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.

## Honors & Awards

**VEX Robotics International Competitions** Louisville, KY

Team Leader & Programmer *Sep 2016 – Jun 2017*

- 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** Xi'an, China

Recipient (Top 10 out of 300+ candidates from XJTU) *Sep 2014 – Jun 2017*

## Skills

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

**Machine Learning:** PyTorch, PyTorch-lightning, TensorFlow, Keras, Scikit-learn

**Miscellaneous:** LaTeX, Git, Ansys, SolidWorks, AutoCAD, Adobe Photoshop

## Program Committee & Reviewer

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