

# Yufei Li

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## Research Interests

- Natural language processing and generation, uncertainty estimation, intelligent and interactive systems
- Research goal:** effective, efficient, explainable, and uncertainty-aware AI systems with knowledge and interactions

## Education

### University of California, Riverside

PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING, ADVISOR: **CONG LIU**, INTELLIGENCE SYSTEM GROUP

Riverside, CA

2022 - 2025 (expected)

### University of Texas at Dallas

PH.D. IN COMPUTER SCIENCE, ADVISOR: **CONG LIU** & WEI YANG, INTELLIGENCE SYSTEM GROUP

Dallas, TX

2020 - 2022

### University of California, San Diego

M.S. IN ELECTRICAL ENGINEERING, THESIS: APPLICATION OF A\* AND GENETIC ALGORITHM IN TSP PATH PLANNING

San Diego, CA

2018 - 2020

### Xi'an Jiaotong University

B.S. IN MECHANICAL ENGINEERING, THESIS: AIRCRAFT FUEL TANK OIL SLOSHING SIMULATION BASED ON SPH METHOD

Xi'an, China

2014 - 2018

## Work Experience

### NEC Laboratories America, Inc.

RESEARCH INTERN (NLP & DATA MINING), PYTORCH

Princeton, NJ

May 2022 - Aug 2022

- Annotated fields (name entities) in raw log messages and applied prompt-based seq2seq BART for field extraction
- Defined hierarchical relationships between fields and configured dynamic attributed graphs for feature representations
- Detected abnormal relationships in log messages using a temporal-attentive Graph Transformer

### NEC Laboratories America, Inc.

RESEARCH INTERN (NLP & MACHINE LEARNING), PYTORCH

Princeton, NJ

Jun 2021 - Aug 2021

- Annotated name entities and relations with regular expression rules on CVE texts for distant supervision
- Incorporated the pre-trained GPT-2 backbone into a sequence labeling framework for joint entity & relation extraction
- Proposed a bootstrap training procedure for denoising distant labels and selecting high-quality instances

### SeekTruth Scientific and Technical Corporation

RESEARCH INTERN (CV & MACHINE LEARNING), TENSORFLOW

Beijing, China

Jul 2019 - Sep 2019

- Built a joint key point & pose recognition model for character detection, and refined an adaptive discrimination definition model
- Designed a lightweight CNN for real-time calibration of online video frame directions

## Publications

### PIMbot: Policy and Incentive Manipulation for Multi-Robot Reinforcement Learning in Social Dilemmas

SHAHAB NIKKHOO, ZEXIN LI, ARITRA SAMANTA, **YUFEI LI**, CONG LIU | *IROS* 2023 [PDF]

### Uncertainty-Aware Bootstrap Learning for Joint Extraction on Distantly-Supervised Data

**YUFEI LI**, XIAO YU, YANCHI LIU, HAIFENG CHEN, CONG LIU | *ACL* 2023 [PDF]

### White-Box Multi-Objective Adversarial Attack on Dialogue Generation

**YUFEI LI**, ZEXIN LI, YINGFAN GAO, CONG LIU | *ACL* 2023 [PDF]

### SHARE: a System for Hierarchical Assistive Recipe Editing

SHUYANG LI, **YUFEI LI**, JIANMO NI, JULIAN MCAULEY | *EMNLP* 2022 [PDF]

### Estimating Predictive Uncertainty Under Program Data Distribution Shift

**YUFEI LI**, SIMIN CHEN, CONG LIU, WEI YANG | *Preprint* 2021 [PDF]

### GLIB: Towards Automated Test Oracle for Graphically-Rich Applications

KE CHEN\*, **YUFEI LI**\*, YINGFENG CHEN., CHANGJIE FAN, ZHIPENG HU, WEI YANG | *ESEC/FSE* 2021 [PDF]

## Projects

### Enhance the Reliability of Deep Networks on Out-of-distribution Data

NLP & CV, PYTORCH

Dallas, TX

Sep 2021 - May 2022

## Assessing the Reusability of Pre-trained Code Embeddings

NLP & SE, PYTORCH

Dallas, TX

Sep 2020 - May 2021

## Rethink Negative Sampling in Bayesian Personalized Ranking

DATA MINING & RECOMMENDER SYSTEMS, PYTORCH

San Diego, CA

Nov 2019 - Jun 2020

## Automatic Delivery Vehicle Design

PATH PLANNING, PYTHON & MATLAB

San Diego, CA

Mar 2019 - Jun 2019

## How Cute is My Pet? Pet Adoption Speed Prediction

NLP & CV, TENSORFLOW

San Diego, CA

Jan 2019 - Mar 2019

## Honors & Awards

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### VEX Robotics International Competitions

ROBOT & PATH PLANNING, C/C++

Louisville, KY

2016-2017

- Excellent award and runner-up in **VEX Robotics World Championship (RECF)** 2017, Louisville, KY, US.
- Excellent award and runner-up in VEX Robotics Asia Open 2016, Beijing, China.
- First-class honor in VEX Robotics China Open 2016, Xi'an, China.

### National encouragement scholarship

PERSONAL, TOP10 OF 300+ APPLICANTS.

Xi'an, China

2014-2017

## Skills

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**Language** Python, C/C++, JAVA, Bash, HTML, Markdown, MATLAB

**Machine Learning** PyTorch, TensorFlow, Keras, scikit-learn

**Miscellaneous**  $\text{\LaTeX}$ , Git, SQL, Ansys, SOLIDWORKS, AutoCAD, Photoshop

## Program Committee & Reviewer

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KDD, CIKM, ACL, EMNLP, ICSE, ESEC/FSE, ASE, ICST, RTSS