# Junlin Wang

*2023*

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## Education

2022 – **Computer Science Ph.D**, *Duke University*.

2020 – 2022 **Computer Science MS**, *University of California, Irvine*.
UCI GPA: 3.93

2016 – 2020 **Computer Science B.S. / Mathematics B.S.**, *University of California, Irvine*.
UCI GPA: 3.91

## Research Experience

Sep 2022 - **Research Assistant**, *Prof. Sam Wiseman & Prof. Bhuwan Dhingra*.
Durham, NC

- Neurosymbolic NLP.
- NLP models generalization and Interpretability.

Nov 2018 - June 2022 **Research Assistant**, *Prof. Sameer Singh*.
Irvine, CA

- Co-authored a demo paper "AllenNLP Interpret: A Framework for Explaining Predictions of NLP Models" at EMNLP2019 and won the **Best Demo Reward**.
- One first-author paper in EMNLP2020 Findings of manipulating interpretation techniques.
- Built an automatic evaluation platform for adversarial attacks/defenses. This platform will be used for CS 175 Winter 2022 at UCI.

## Publications

### NLP

Aug 2023 **Soon**, Token Economies: Budget-Aware Evaluation of LLM Reasoning Strategies.

May 2023 **Arxiv**, NeuroComparatives: Neuro-Symbolic Distillation of Comparative Knowledge.
Phillip Howard*, **Junlin Wang***, Vasudev Lal, Gadi Singer, Yejin Choi, Swabha Swayamdipta

Aug 2022 **EACL Workshop**, GAP-Gen: Guided Automatic Python Code Generation.
**Junlin Wang***, Yurun Song*, Junchen Zhao*, Ian Harris.

Aug 2022 **EAAI**, Maestro: A Gamified Platform for Teaching AI Robustness.
Margarita Geleta, Jiacen Xu, Manikanta Loya, **Junlin Wang**, Sameer Singh, Zhou Li, Sergio Gago-Masague

Nov 2020 **EMNLP Findings**, Gradient-based Analysis of NLP Models is Manipulable.

**Junlin Wang***, Jens Tuyls*, Eric Wallace, Sameer Singh.

Nov 2019 **EMNLP, Best Demo Award**, AllenNLP Interpret: A Framework for Explaining Predictions of NLP Models.

Eric Wallace, Jens Tuyls, **Junlin Wang**, Sanjay Subramanian, Matt Gardner, and Sameer Singh.

Link paper | Landing Page | Demo

### Other Publications

Sep 2019 **SPIE Nanoscience + Engineering**, Improved regressions with convolutional neural networks for surface enhanced Raman scattering sensing of metabolite biomarkers.

William John Thrift; Cuong Quoc Nguyen; **Junlin Wang**; Jason Ernest Kahn; Ruijun Dong; Andrew Benjamin Laird; Regina Ragan.

Link paper

## Industry Experience

May-Aug 2023 **Amazon AWS AI**, *Applied Scientist Intern*.
Santa Clara, California

- Evaluated LLM reasoning versus Scale.

Jan-Aug 2022 **Intel Labs**, *NLP Research Intern*.
Santa Clara, California

- Neurosymbolic Knowledge Generation.

Jun-Sep 2021 **Tencent**, *NLP Research Intern*.
Shenzhen, Guangzhou

- Combined GNN and NLP methods for better downstream tasks in Tencent Finance.
- Developed and evaluated GNN methods for large-scale payment data. Explored the potential of self-supervised learning on GNN.

Jun-Sep 2019 **Comcast Applied AI Research Lab**, *NLP Research Intern*.
Washington, DC

- Developed a novel training routine for the translation model used by the Xfinity X1 remote voice control. Found 257 data artifacts in the production data and improved performance by 11%.
- Developed a React data visualization tool for voice command queries.

## Other Research Experience

Jul 2018 - Feb 2020 **Lab Member**, *Deep Data Lab@UCI*, website.
Irvine, CA

- Used statistical analysis and machine learning to determine likelihood of defaults.
- Collaborated with Experian to research new credit scoring methods.

Jul-Seq 2018 **Research Assistant**, *Regan's Group@UCI*.
Irvine, CA

- Co-authored and published a paper "Improved Regressions with Convolutional Neural Networks for Surface Enhanced Raman Scattering Sensors" at SPIE Nanoscience + Engineering.

Feb-Oct 2018 **Research Assistant**, *Molloi's Lab@UCI*.
Irvine, CA

- Developed automatic algorithm to segment CTA Imaging on Coronary Arteries.
- Awarded E-SURP Fellowship.
- Presented posters at Heart to Heart Training Club and UROP Symposium.

## Projects

**https://isthatyou.github.io/pages/index.html**.

## Honors and Awards

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|---|---|---|
| Nov 2019 | Best Demo Award | *EMNLP 2019* |
| Apr 2019 | Best Visualization | *DataFest 2019* |
| Feb 2018 | E-SURP fellowship | *The Edward Lifesciences Center at UCI* |
| Oct 2017 | 3rd Place | *Microsoft Coding Competition at UCI* |
| May 2017 | Best Project and Development Practices | *BeachHacks* |
| Apr 2017 | 1st Place | *1st Tippers IOT Hackathon* |
| 2018-2020 | ICS Honors Program | *UCI* |
| 2016-2020 | Dean's Honor List | *UCI* |

## Presentations and Talks

### Poster Presentations

Mar 2020 **AllenNLP Interpret: A Framework for Explaining Predictions of NLP Models**, poster presentation at WeCNLP, 2020.

Nov 2019 **AllenNLP Interpret: A Framework for Explaining Predictions of NLP Models**, poster presentation at EMNLP 2019, HK.

Oct 2018 **Automatic Segmentation of CTA Imaging on Coronary Arteries**, Heart to Heart Training Club in the Edwards Lifesciences Center for Advanced Cardiovascular Technology, Irvine, CA.

### Talk

Sep 2019 **Feedback Mini-Batching: Automatically Detecting Data Artifacts and Robust Training**, Lab Week Talk at Comcast Applied AI Research Lab, Washington,DC.

Nov 2018 **Interpretations and Adversarial Attacks of DNN Models**, Talk at ACM Club Seminar, Irvine, CA.

## Involvements and Leadership

2019 – 2020 Vice President *Association for Computing Machinery (ACM) – UCI Chapter*

2018 – 2019 Vice President *Artificial Intelligence club – UCI*

## Skills

### Advanced

Python ,C/++ ,PyTorch ,MATLAB®

### Intermediate

Javascript ,TensorFlow

### Technologies

MySQL ,ReactJS ,Bootstrap ,Flask ,Jupyter ,Unix/Linux