

# Laura Zheng

[lyzheng@umd.edu](mailto:lyzheng@umd.edu) | [linkedin.com/in/laurayuzheng](https://www.linkedin.com/in/laurayuzheng) | [laurayuzheng.github.io](https://laurayuzheng.github.io)

## EDUCATION

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### University of Maryland

*Computer Science PhD Student @ GAMMA Group ; Advised by Ming Lin*

College Park, MD

*Aug. 2020 – Present*

### University of Maryland

*B.S. in Computer Science*

College Park, MD

*Aug. 2016 – Dec 2019*

## PUBLICATIONS

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### Google Scholar

#### **Traffic-Aware Autonomous Driving with Differentiable Traffic Simulation**

- **Laura Yu Zheng**, Sanghyun Son, Ming Lin
- Under review at ICRA 2023. [Project Website](#)
- Implemented differentiable traffic simulation for deep learning frameworks, wrapper library for co-simulation between driving and traffic simulators, and generalizable method for acceleration optimization with objectives for social good

#### **Quantifying Human Driving Behavior with VR**

- Current project with Professor Ming Lin

#### **Gradient-Free Adversarial Training Against Image Corruption for Learning-based Steering** NeurIPS 2021

- Yu Shen, **Laura Yu Zheng**, Manli Shu, Weizi Li, Tom Goldstein, Ming Lin

#### **Enhanced Transfer Learning for Autonomous Driving with Systematic Accident Simulation** IROS 2020

- Shivam Akhauri, **Laura Zheng**, Ming Lin ; [Project Website](#)

#### **Understanding ML in Earth Science: A Natural Language Processing Approach**

AGU 2019

- **Laura Zheng**, Arif Albayrak, William Teng, Mohammad Khayat, Long Pham

## WORK EXPERIENCE

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### **Data Science Intern**

*NASA Goddard Space Flight Center / ADNET Systems*

June 2019 - Aug 2020

*Greenbelt, MD*

- Developed a publication metadata data collection pipeline for scientists at Goddard
- Applied named entity recognition and relationship extraction natural language processing models on research literature text for knowledge base construction
- Attended various Geoscience academic conferences to present my group's work

### **CRA-W DREU in Autonomous Driving**

*University of North Carolina at Chapel Hill*

May 2019 – July 2019

*Chapel Hill, NC*

- Researched and developed vehicle accident scenarios in Unity Game Engine

## COURSES TAKEN

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### **Foundations of Deep Learning, Learning-based Modeling, Simulation and Animation**

Fall 2022

### **Robotics, Differentiable Programming, Advances in XR**

Fall 2021, Spring 2022

### **Advanced Numerical Optimization, Data Visualization**

Spring 2021

### **Parallel Computing, Interactive Technologies/HCI, ML Guarantees and Analysis**

Fall 2020

## TECHNICAL SKILLS

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**Languages:** Python, Java, C#, Racket, C/C++

**OS:** Linux, Mac OSX, Windows

**Software and Frameworks:** Unity, PyTorch, Lightning, Tensorflow, CARLA, SUMO

**Developer Tools:** Git, VS Code, Visual Studio, Eclipse, Sphinx Documentation, Anaconda, LaTeX