# Wanyong Feng

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## Education

**University of Massachusetts Amherst**
*Amherst, MA*
Sep 2022 -

PhD Candidate in Computer Science

- **Advisor** Prof. Andrew S. Lan

**University of North Carolina at Chapel Hill**
*Chapel Hill, NC*
Aug, 2021 - May, 2022

Master of Science in Computer Science

Advisor: Prof. Junier Oliva

**University of North Carolina at Chapel Hill**
*Chapel Hill, NC*
Aug, 2018 - Dec, 2020

B.S. in Computer Science, Second major in Mathematics

GPA: 3.816

## Research Interest

- Applying artificial intelligence (AI) methods to build personalized educational learning tools

## Research Experience

### Constrained BOBCAT

- **TL;DR:** This project is about solving the high question exposure and test overlap rates problem in BOBCAT
- **Steps**:
  1. Change the categorical question selection distribution to the Gumbel-Softmax distribution
  2. Add the entropy of the question selection distribution to the loss function
- **Results:** C-BOBCAT can create the balance between test accuracy and question exposure and test overlap rates
- **Advisor:** This project is advised by Prof. Andrew S. Lan

### Interpretation of the RL Agent

- **TL;DR**: This project is about exploring methods to interpret the action sequences of the reinforcement agent
- **Steps:**
  1. Analyze the action sequences by considering the order of the sequence
  2. Leverage the existing clustering methods to divide the action sequences into small groups and analyze them
- **Results:** Found several meaningful groups that can add more interpretation to the action sequences
- **Advisor:** This project is advised by Prof. Junier Oliva as the master degree project

### Domain adaptation in semantic parsing

- TL;DR: Investigate the adaptability of the existing Text-to-SQL semantic parsers to unknown domains
- Key Insight: Improve the parsers' performance of interpreting the utterances into SQL that is grounded on unseen databases
- Steps:
  1. Identify two challenges for the current model with zero-shot and low resource settings
  2. Use the generative model to generate Text-Query pairs with features in target domains, which is used to fine-tune the parser
- Results: The parser accuracy was improved under this setting
- Advisor: This project is advised by Prof. Rui Zhang as the 2020 Pennsylvania State University summer program

## Experience

### Research Assistant
*UMASS Machine Learning for Education Research Group*

*Amherst, MA*

*2022.9 - present*

- **Advisor: Prof. Andrew S. Lan**

### Research Assistant
*LUPA LAB @ UNC Research Group*

*Chapel Hill, NC*

*2021.3 - 2022.5*

- **Advisor: Prof. Junier Oliva**

### Research Assistant
*Penn State Department of Computer Science*

*State College, PA*

*2020.5 - 2020.12*

- **Advisor: Prof. Rui Zhang**

### Software Engineering Intern
*SHANGHAI AMARSOFT INFORMATION & TECHNOLOGY COMPANY*

*Shanghai, China*

*2019.5 – 2019.8*

- **Advisor: Hao Ding**
- **Built web crawlers to collect data from websites using Java**
- **Stored and Analyzed data using SQL**

## Awards/Honors

| 2020.1 - 2020.5 | **Software engineering competition** <br> Top 3 out of 30 projects |
| 2019.10 | **Hack NC** <br> Top 10 out of 100 projects |
| 2018.8 - 2020.12 | **Dean List** <br> All possible semesters |
| 2018.3 | **Computer Science Competition** <br> First Place |