

YUWEI WU

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EDUCATION

Shanghai Jiao Tong University

Shanghai, China

B.Sc. in Computer Science

Sep 2016 – Present

- GPA: 89.7/100 (10/48)
- Selected awards: KoGuan Encouragement Scholarship (top 1.5% of ~800 participants, awarded to those with outstanding academic performance), Meritorious Winner of MCM (top 10%)
- Selected to ACM Honored Class (an elite CS program in SJTU for top 5% talented students)
- Visiting student to Georgia Tech

RESEARCH INTERESTS

- Natural Language Processing, Machine Reading Comprehension, Question Answering
- Computational Social Science, Dialog System, Response Generation

SHARED TASKS

- [July 2019] **SQuAD2.0** Leaderboard on Machine Reading Comprehension
 - The **best** in all single models and 2nd best in all models
 - The **first** to surpass human benchmark on both EM and F1 scores with a single model
 - The **first** time to exceed 90% F1 score with ensemble models
 - [[Leaderboard](#)] [[Paper](#)] [[Report](#)]
- [March 2019] **RACE** Leaderboard on Machine Reading Comprehension
 - The **best** among all submissions
 - The **best** among all academic submissions
 - [[Leaderboard](#)] [[Paper](#)] [[Report](#)]
- [April 2019] **SNLI** Leaderboard on Language Inference
 - The **best** among all submissions
 - [[Leaderboard](#)] [[Paper](#)]
- [March 2019] **GLUE** Leaderboard on Language Understanding
 - The **3rd best** among all submissions
 - The **best** among all academic submissions
 - [[Leaderboard](#)] [[Paper](#)]

PAPERS

1. I know what you want: Semantic learning for text comprehension
Zhuosheng Zhang, **Yuwei Wu**, Zuchao Li, Shexia He, Hai Zhao
 - Accepted by **PACLIC 33 (2019) (oral)** [[Paper](#)]
 - The first attempt to incorporate semantic role label into text comprehension tasks.
 - Present a semantic learning framework for fine-grained text comprehension and inference.
 - Achieve the new SOTA result on SNLI dataset, even outperforms all the ensemble models in the leaderboard.
2. Autor-Retoucher – A Framework for Background Replacement and Foreground Adjustment
Yunxuan Xiao, Yikai Li, **Yuwei Wu**, Lizhen Zhu
 - Accepted by **MVA 2019 (oral)** [[Paper](#)]
 - Automatically replace the image background while keeping global coherence.
 - Zooming and shifting foreground objects to a suitable position guided by numerical gradient.
 - Generate images with sufficient semantic and spatial consistency from any given image.
3. SG-Net: Syntax-Guided Machine Reading Comprehension

Zhuosheng Zhang*, **Yuwei Wu***, Junru Zhou, Sufeng Duan, Hai Zhao (* means equal contribution)

- Submitted to **AAAI 2020** [[Paper](#)]
- Propose to use syntax to guide text modeling by incorporating explicit syntactic constraints into attention mechanism.
- Present a dual contextual architecture called syntax-guided network to provide a syntax enhanced representation for text comprehension.
- Achieve significant improvement over the fine-tuned BERT baseline.

4. Semantics-aware BERT for Language Understanding

Zhuosheng Zhang*, **Yuwei Wu***, Zuchao Li, S Zhang, Xi Zhou and Xiang Zhou (* means equal contribution)

- Submitted to **AAAI 2020**
- Propose to incorporate explicit contextual semantics from pretrained semantic role labeling.
- Introduce a n improved language representation model, Semantics-aware BERT (SemBERT).
- Obtain new SOTA or substantially improves results on ten reading comprehension and language inference tasks.

5. Dual Co-Matching Network for Multi-choice Reading Comprehension

Liangshuai Zhang, Hai Zhao, **Yuwei Wu**, Zhuosheng Zhang, Xi Zhou, Xiang Zhou

- Submitted to **AAAI 2020** [[Paper](#)]
- Propose a dual co-matching network which models the relationship among passage, question and answer bidirectionally.
- Obtain SOTA results on RACE, ROCStories and COIN Shared Task 1 and single model outperforms the human performance on RACE dataset.

RESEARCH EXPERIENCE

SJTU, BCMI Lab

Research Assistant to Professor Hai Zhao [[Homepage](#)]

Shanghai, China

June 2018 – June 2019

Semantic Role Labeling and Syntax for Text Comprehension

- Given the observation that current language models generate semantically incomplete answers in terms of question answering which extremely harm the performance, we propose to incorporate semantics and syntax into model training as external knowledge.
- Specific achievements / things you did / results (remember, highlight the most impressive things / findings)
- Specific achievements / things you did / results (remember, highlight the most impressive things / findings)
- Specific achievements / things you did / results (reference any publications in Publications section if relevant)

Georgia Tech , Diyi Yang's Lab

Research Assistant to Professor Diyi Yang [[Homepage](#)]

Georgia, USA

July 2019 – Present

Personalized Response Generation

- Due to a lack of high-quality personalized dialog dataset, we propose our own dialog dataset which consists of 2M conversations and 300k authors with extra author profile information and comment history provided. And we also propose two dialog models and our evaluation metrics to deal with personalized response generation.

COURSE PROJECTS

- MX-Compiler (in Java) [[Link](#)] 2018
 - Compiles C-and-Java-like language to x86-64 Assembly in NASM assembly.
 - Implemented Graph Coloring Register Allocation, Semantic Analysis, dead code elimination and other optimizations.
- SimpleDB-2019 (in Java) [[Link](#)] 2019
 - Simple Database Management System in Java.
 - Implement query optimization, locking, transactions and concurrent queries.
- RISC-V CPU (in Verilog) [[Link](#)] 2018
 - CPU with 5-stage pipeline and 2-way cache from scratch.
- Text Classification in Machine Learning Course (in Python) [[Link](#)]
 - A binary classification task on News and Media Article
 - Won the fourth place on [Kaggle leaderboard](#).

TEACHING EXPERIENCE

CS 122: Computer Programming, Shanghai Jiao Tong University

Teaching Assistant

Sep – Dec 2017

SELECTED AWARDS AND HONORS

- KoGuan Encouragement Scholarship (top 1.5% of ~800 participants, awarded to those with outstanding academic performance) 2018
- Zhiyuan Honorary Scholarship (top10%) 2016,2017,2018
- Shanghai Jiao Tong Scholarship 2016,2017,2018
- Meritorious Winner of MCM/ICM (top 10% of ~12000 participants, awarded to those with outstanding problem-solving and writing skills) 2018