XUEQING WU

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EDUCATION

University of Science and Technology of China Sep. 2016 - Jun. 2020
BS in Electronic Engineering & Information Science
Member of Honors Program in Computer and Information Science and Technology
Member of Honors Program in AI
GPA: 4.06/4.30 (Ranking: 1/363)

PUBLICATIONS

Yunsheng Bai*, Derek Xu*, Ken Gu, **Xueqing Wu**, Agustin Marinovic, Christopher Ro, Yizhou Sun, Wei Wang, *GNN-MCS: Neural Network Based Maximum Common Subgraph Detection*, Association for the Advancement of Artificial Intelligence (**AAAI 2020**), Under Review, 2019.

Yunsheng Bai*, Derek Xu*, Ken Gu, **Xueqing Wu**, Agustin Marinovic, Christopher Ro, Yizhou Sun, Wei Wang, *Neural Maximum Common Subgraph Detection with Guided Subgraph Extraction*, International Conference on Learning Representations (**ICLR 2020**), Under Review, 2019.

Yixing Zhu, **Xueqing Wu**, Jun Du, *Adaptive Period Embedding for Representing Oriented Objects in Aerial Images*, IEEE Transactions on Geoscience and Remote Sensing, Under Review, 2019. arxiv

RESEARCH EXPERIENCE

Improving BERT-based Language Understanding Oct. 2019 - Present
Research Intern *Machine Learning Group, Microsoft Research Asia*

- Use the encoder of Transformer-based NMT model to generate contextualized word embeddings and improve the accuracy of BERT by 1.1% on SST-2 and 1.5% on RTE
- Apply dual-inference framework with BERT and conditional language models to sentence classification

Long Document Modeling Aug. 2019 - Sep. 2019
Research Intern *ScAi Lab, UCLA*

- Proposed sparsified Transformer to decrease memory consumption and model long documents
- Designed a semantic-aware pooling module to increase the receptive field and attained competitive results on IMDB dataset

Chinese Handwritten Textline Recognition Mar. 2019 - Sep. 2019
Research Intern *NEL-SLIP, USTC*

- Compared DNN-HMM, CTC and encoder-decoder models via extensive experiments
- Featured a data augmentation method that utilized images of isolated words and a large Chinese corpus to construct textline images
- Improved the CTC architecture and increased the accuracy from 80.1% to 87.3%

Oriented Object Detection in Aerial Images Mar. 2019 - Jun. 2019
Research Intern *Challenge-2019 on Object Detection in Aerial Images, CVPR*

- Improved the representation of oriented objects based on the periodicity of tilt angle
- Proposed Length Independent IoU (LIIoU) to increase the recall for long objects
- Won the 1st place in oriented object detection task and the 2nd place in horizontal object detection task, and produced a paper currently under review

PROJECT EXPERIENCE

Qibing Robot (awarded First Prize) Apr. 2018 - Oct. 2018
Major Programmer and Electronic Designer *Robogame (Robot Design Competition by USTC)*

- Identified the color of objects to decide the moving strategy using OpenCV on Raspberry Pi
- Implemented PID control algorithm on STM32 to guarantee stable and high-speed movement
- Employed UART devices for efficient and reliable communication between the Raspberry Pi and STM32

Biohub 2.0 (awarded Gold Medal) Dec. 2016 - Nov. 2017
Backend Programmer *International Genetically Engineered Machine Competition (Software Track)*

- Built a user-friendly, intelligent BioBrick search engine engine with a well-designed mathematical model for result ranking
- Constructed a high-quality BioBrick scoring system and a pertinent forum to promote idea sharing
- Developed a plugin system and released a BioBrick recommender plugin to facilitate biological research

COMPETITIONS

First Place, Task 1, Challenge-2019 on Object Detection in Aerial Images Apr. 2019
Second Place, Task 2, Challenge-2019 on Object Detection in Aerial Images Apr. 2019
Meritorious Winner, MCM / ICM Jan. 2019
First Prize, Robogame, USTC Nov. 2018
Second Prize, Anhui Province, National Undergraduate Electronic Design Contest Jun. 2018
Third Prize, USTC Electronic Design Contest Jan. 2018
Medal Prize, Software Track, International Genetically Engineered Machine Competition Nov. 2017

SCHOLARSHIPS & HONORS

Honorary Rank (Top 5%), USTC Nov. 2019
Guo Moruo Scholarship (Highest honor at USTC, top 1%), USTC Oct. 2019
Tang Lixin Scholarship, Tang Lixin Education Development Foundation Oct. 2018
National Scholarship, China Oct. 2018
Outstanding Student Scholarship, USTC Oct. 2017 & Oct. 2016

SKILLS

Languages Python, MatLab, C++, Java, LaTeX
Deep Learning Tools PyTorch, PyTorch Geometric, PyTorch Transformers, Tensorflow
Software Visual Studio C++, PyCharm

PROFESSIONAL EXPERIENCE

Research Intern, Machine Learning Group, Microsoft Research of Asia Oct. 2019 - Present
Research Intern, ScAI Lab, UCLA Jul. 2019 – Sep. 2019
Teaching Assistant, Electronic Design Practice I Course, USTC Feb. 2019 - Jun. 2019

EXTRACURRICULAR ACTIVITIES

Vice Director, College Debate Team, USTC Sep. 2017 - Present
First Prize, USTC Debate Competition Nov. 2016
Class Commissary in Charge of Psychology, USTC Sep. 2016 - Sep 2017