

Xiao Chu

MASTER OF ENGINEERING, ECE, QUEEN'S UNIVERSITY

EDUCATION	Queen's University , Kingston, Ontario, Canada <i>Master of Engineering</i> , Electronic and Computer Engineering, <i>Sep' 19 - Dec' 20 (Expected)</i> GPA: 4.0/4.3
	Wuhan University of Technology , Wuhan, Hubei, China <i>Bachelor of Engineering</i> , Computer Science and Technology, <i>Sep' 15 - Jun' 19</i> GPA: 90.17/100 (3.78/4.0) Ranked 10th over 227 students (top 5%)

RESEARCH INTERESTS	Machine Learning, Nature Language Processing Sentiment Analysis, Automatic Text Generation, Text Extraction
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AWARDS & ACHIEVEMENTS	Outstanding Graduate	<i>Apr' 2019</i> , Wuhan University of Technology
	The Third-Class Scholarship TOP 5% in all students	<i>Sep' 2018</i> , Wuhan University of Technology
	Academic Excellence Award Awarded to the outstanding student who got the highest GPA in the whole year	<i>Apr' 2018</i> , Wuhan University of Technology
	The Second-Class Scholarship TOP 3% in all students	<i>Sep' 2017</i> , Wuhan University of Technology
	The Third-Class Scholarship TOP 5% in all students	<i>Sep' 2016</i> , Wuhan University of Technology

RESEARCH PROJECTS	SemEval2020 Task5 Modelling Casual Reasoning in Language: Detecting Counterfactuals <i>Supervisor : Dr.Xiaodan Zhu</i> <i>Sep '19 - Jan '20</i> <ul style="list-style-type: none">- Constructed the dataset with more than 10,000 text instances. Collected the original data from Internet and removed all non-linguistic information from original data.- Revised the annotations made by annotators, split the whole dataset into training dataset and test dataset respectively.- Built a binary classification model as baseline model in subtask 1 using SVM.- Built a sequence labelling model as baseline model in subtask 2 using CRF.- Devised a word-level Precision/Recall/F1-score metric and a sentence-level Exact Match metric. Compared with existed metric functions provided by Pytorch, these two metrics could better measure models' performance in subtask 2.- For more details about this project, please refer to SemEval 2020 Task5.
	Verbal Irony Detection <i>Supervisor : Dr.Xiaodan Zhu</i> <i>Apr '20 - Now</i>

- Constructed the dataset which includes more than 1,500 text-audio bi-modality instances.
- Built the audio-modality model based on Transformer, extracted the audio feature using OpenSmile and IS09 feature dataset. This model was a baseline model for audio-modality in this dataset.
- Built the text-modality model based on BERT, This model was a baseline model for text-modality in this dataset.
- Built two multi-modality fusion model as baseline models for multi-modality fusion in this dataset.
- Devised a bi-linear fusion model based on cartesian product, compared with original fusion model, this model improved 6% performance in this dataset.
- We plan release our dataset, code on Github and submit our paper to Language Resource and Evaluation this December.

COMPUTER SKILLS

Languages

Python (Proficient), C++/C, Matlab, L^AT_EX

Deep Learning Framework

Pytorch (Proficient). Read the Python source code of Pytorch 1.7, skilled at building customized neural network and large-scale pre-trained neural network.

Tensorflow (Experienced). I have the experience of re-writing the Tensorflow-based code to Pytorch.

Others

Experienced with Ubuntu(a Linux-based operation system) and Web Development.

MACHINE LEARNING AND DEEP LEARNING BACKGROUND

Mathematics

- Passed undergraduate course "Probability and Mathematics Statistic" and graduate course "Probability, Random Variable, Stochastic Process" (ELEC 861) in full mark.
- Read the book "Introduction to Linear Algebra" (Gilbert Strang) to enhance my linear algebra skill.

ML&DL

- Passed graduate course "Machine Learning and Deep Learning" (ELEC 845) at 4.0 GPA.
 - Read the book "Deep Learning" (Ian Goodfellow et al.) and "Pattern Recognize and Machine Learning" (Christopher Bishop) to enhance my knowledge and understanding in this field.
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EXTRA INTERESTS

Calligraphy: Chinese Calligraphy uses writing brush made by weasel's or sheep's hair to write Chinese characters in different forms such as Song, Cao, Xing. It is a traditional art form in China. I practiced calligraphy for 6 years since I was ten year's old.

Computer Hardware: Very interested in computer hardware, assembled a personal computer at very young age independently, helped many classmates choose hardwares (graphic card, cpu, memory, motherboard etc.) and assemble their own computers.