

# XIAOHAN ZOU

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## EDUCATION

**Tongji University**, Shanghai, China

09/2016 – 07/2020

B.Eng. in Software Engineering, Overall GPA: 84.35/100

### Core Courses:

- **Statistics & Mathematics:** Probability and Mathematical Statistics, Discrete Mathematics, Calculus, Linear Algebra, et al.
- **Computation:** Data Structure, Algorithm, Database, Operating Systems, Principles of Compilers, Object-Oriented Programming, SOA and Web Services, Web System and Technology, Distributed System, Cybersecurity, et al.

## PUBLICATIONS AND SUBMITTED MANUSCRIPTS

- **To be an Artist: Automatic Generation on Food Image Aesthetic Captioning**

Xiaohan Zou, Cheng Lin, Yinja Zhang, and Qinpei Zhao

The 32th International Conference on Tools with Artificial Intelligence (ICTAI 2020). Acceptance Rate: 25%.

**Oral Presentation.** [Paper] [Slide]

- **A Survey on Application of Knowledge Graph**

Xiaohan Zou

The 5th International Conference on Control Engineering and Artificial Intelligence (CCEAI 2020) [Paper]

## RESEARCH EXPERIENCE

**Food Image Aesthetic Captioning**, Tongji University

04/2020 – 06/2020

Advisor: Prof. [Qinpei Zhao](#)

Worked on generating critiques related to art and aesthetics for food images. **Our work has been accepted to ICTAI.**

- Proposed a novel compositional framework consisting of a single-attribute captioning module and an unsupervised text summarization module for generating comprehensive aesthetic captions for food images.
- Constructed a dataset containing food images with their captions of up to 6 aesthetic attributes for this new task.
- Introduced two new evaluation criteria to assess the novelty and diversity of the generated captions.
- Experiments on the proposed dataset showed that our method outperforms baselines and existed methods substantially in terms of diversity, novelty and coherence.

**Fault Diagnosis for Microservice Architectures**, Tongji University

09/2018 – 01/2019

Advisor: Prof. [Qingfeng Du](#)

Worked on building fault diagnosis system for microservice architectures. Our work was supported by Huawei.

- Represented the services of a cloud platform and the causal relationships between them by a causal graph against the observed performance metrics dynamically using PC algorithm.
- Identified the culprit services when an anomaly occurs using a heuristic investigation algorithm based on random walk.
- Fault injection experiments showed that our method achieves higher identification accuracy and speed when compared to traditional approaches, without any expert knowledge.

**Semi-Supervised Machine Translation**, Peking University

07/2018 – 08/2018

Advisor: Prof. [Tong Lin](#)

Worked on semi-supervised machine translation using structure duality.

- Proposed a dual learning framework based on shared hidden space which can utilize the structure duality to boost the learning of two dual tasks and better regularize the model.
- Designed two denoising auto-encoders consisting of encoders and decoders of two traditional Seq2Seq neural machine translators to make use of unpaired data.
- Our method outperformed strong baselines by 1.0 - 2.9 BLEU on IWSLT'15 (English-Vietnamese) and WMT'14 (English-German). The improvement is more obvious when labeled data is little.

## SELECTED PROJECTS

**Speech Emotion Recognition**

04/2019 – 06/2019

Work done at Tongji University. Advisor: Prof. [Qingfeng Du](#)

- Implemented several models and features extracting methods for speech emotion recognition.
- Achieved 7.2 - 12.2 accuracy improvement over baseline on four benchmark datasets: CASIA (Chinese), EMODB (German), SAVEE (English), and RAVDESS (English).
- The project is open source on [Github](#) and got 130 stars by 11/2020.

**Chatbot: A Chatbot Aimed at Providing Stock and Weather Information** 10/2018 – 11/2018

Work done at Massachusetts Institute of Technology (Remote). Advisor: Dr. [Fan Zhang](#)

- Built a chatbot which can identify and analyze the intentions of users and provide stock and weather information using RasaNLU.
- Implemented the intention classifier and named entity recognizer based on SVM using spaCy and scikit-learn.
- Implemented multi-turn dialogue using finite state automaton.
- Integrated the chatbot to WeChat and QQ for a better user interface.

## PROFESSIONAL EXPERIENCE

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**Software Engineer Intern**, Acoustic-Optic-Electronic Co., LTD. of Chine Electronics Technology Group Corporation, Chongqing, China 10/2020 – Present

- Developing ancient handwritten Chinese OCR system.
- Participated in equipment selection for a smart waste management project.

**Research Assistant**, Peking University, Beijing, China (Remote) 09/2020 – Present

Topic: Continual Learning and Meta Learning. Advisor: [Tong Lin](#)

**Game Engineer Intern**, Banana Interactive, Shanghai, China 10/2019 – 05/2020

Banana Interactive is a startup game company focusing on online social games.

- Worked mainly on developing H5 games on Facebook.
- Participated in the design, development, testing, deployment and improvement of 3 games.
- Ported a game packaging and deployment tool from Windows to Linux and MacOS.

## SELECTED AWARDS AND HONORS

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**Bronze**, China Collegiate Programming Contest (CCPC) 2018

**Honorable Mention**, ACM International Collegiate Programming Contest (ICPC) Asia Regional 2018

**Bronze**, Internet+ Innovation and Entrepreneurship Contest for University Students 2018

**Second Prize**, Programming Contest of Tongji University 2017, 2018

**Second Prize**, China Mathematical Contest in Modeling (CUMCM) 2017, 2018

**Second Prize**, Programming Contest of East China Normal University 2017

## LEADERSHIP AND ACTIVITIES

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**Vice Chief Technology Officer & Chief Experience Officer**, Tongji Microsoft Student Club

- Responsible for the management of related affairs of the club.
- Gave lectures about data structure and algorithms as well as their applications in machine learning on technology courses.

## SKILLS

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**Programming Languages:** Python, JavaScript, HTML/CSS, C/C++, Java, MATLAB

**Tools and Frameworks:** Git, PyTorch, Keras, Linux, Vue, Django, L<sup>A</sup>T<sub>E</sub>X

**Languages:** Chinese (native), English (proficient, TOFFEL: 106, GRE: 322)