Xiaohan Zou

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Education

Boston University — Boston, MA
M.S. in Computer Science — 09/2021 – 01/2023

Tongji University — Shanghai, China
B.Eng. in Software Engineering — 09/2016 – 07/2020

Publications and Submitted Manuscripts

- **Xiaohan Zou**, and Tong Lin. "Efficient Meta-Learning for Continual Learning with Taylor Expansion Approximation", **submitted to IJCNN 2022**.
- **Xiaohan Zou**, Changqiao Wu, Lele Cheng, and Zhongyuan Wang. "Rethinking Fine-grained Semantic Alignment in Video-Text Retrieval", **submitted to IJCAI 2022**.
- **Xiaohan Zou**, Cheng Lin, Yinjia Zhang, and Qinpei Zhao. "To be an Artist: Automatic Generation on Food Image Aesthetic Captioning", **ICTAI 2020**. (Acceptance Rate: 25%, **Oral Presentation**) [Paper] [Code]
- **Xiaohan Zou**. "A Survey on Application of Knowledge Graph", **CCEAI 2020**. [Paper]

Research Experience

Machine Learning Engineer Intern, Kuaishou Technology, Beijing, China — 07/2021 – Present

- Devised a new model-agnostic formulation for fine-grained cross-modal semantic alignment and subsumed the recent popular works into the proposed scheme
- Proposed a video-text retrieval method which is competitive when compared with the SOTA approaches with heavy model design by only altering the similarity function, **submitted to IJCAI 2022**
- Developed a PyTorch library for video-text retrieval which is benefiting the group members' research work

Reseach Intern, Peking University, Beijing, China — 08/2020 – Present

- Designed an efficient method for parameter importance estimation via Taylor expansion
- Proposed a fast meta-learning algorithm for continual learning problems, which expresses the gradient of meta-update in closed-form instead of using Hessian information, **submitted to IJCNN 2022**
- Outperformed SOTA methods while optimizing much more efficient in experiments on popular benchmarks

Undergraduate Reseacher, Tongji University, Shanghai, China — 03/2020 – 06/2020

- Proposed a novel framework consisting of a single-attribute captioning module and an unsupervised text summarization module for generating aesthetic captions for food images, **published in ICTAI 2020** [Project]
- Designed a data filtering strategy inspired by TF-IDF method for building a dataset for this new task
- Designed two new evaluation criteria to assess the novelty and diversity of the generated captions
- Outperformed baselines and existed methods substantially in terms of diversity, novelty and coherence

Reseach Intern, Peking University, Beijing, China — 07/2018 – 08/2018

- Utilized the structure duality to boost the learning of two dual tasks based on shared hidden space
- Designed two denoising auto-encoders consisting of encoders and decoders of two traditional Seq2Seq neural machine translators to make use of unpaired data
- Outperformed strong baselines by 1.0 - 2.9 BLEU on IWSLT'15 and WMT'14 dataset

Awards and Honors

Bronze, China Collegiate Programming Contest (CCPC) — 2018
Second Prize, China Mathematical Contest in Modeling (CUMCM) — 2017, 2018

Skills

Programming Languages: Python, JavaScript/TypeScript, HTML/CSS, Java, C/C++, MATLAB
Tools and Frameworks: Git, PyTorch, Keras, scikit-learn, Linux, Vue, React, Django, LaTeX
Languages: Chinese (native), English (proficient, TOEFL: 106, GRE: 322)