RONGLAI ZUO

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EDUCATION

Hong Kong University of Science and Technology *Sep. 2020 - Aug. 2024 (expected)*

- Pursuing Ph.D. in Computer Science and Engineering
- Research Interests: Sign Language Recognition/Translation/Generation
- Supervisor: Prof. Brian Mak

Texas A&M University *Jun. 2019 - Sep. 2019*

- Research Assistant
- Project: Voxel-based 3D Neuroimage Segmentation
- Supervisor: Prof. Shuiwang Ji

University of Science and Technology of China *Sep. 2016 - Jul. 2020*

- Special Class for the Gifted Young
- Talent Program in Artificial Intelligence
- B.Eng. in Electronic Information Engineering

PUBLICATIONS

*co-first authors

- **Ronglai Zuo** and Brian Mak, "Improving Continuous Sign Language Recognition with Consistency Constraints and Signer Removal", Under Review, 2022.
- Yutong Chen*, **Ronglai Zuo***, Fangyun Wei*, Yu Wu, Shujie Liu, and Brian Mak, "Two-Stream Network for Sign Language Recognition and Translation", **NeurIPS**, New Orleans, USA, 2022, ***Spotlight***.
- **Ronglai Zuo** and Brian Mak, "C2SLR: Consistency-enhanced Continuous Sign Language Recognition", **CVPR**, New Orleans, USA, 2022.

  - Only using the CTC loss to train CSLR backbones may lead to the insufficient training problem that the extracted features are not representative enough to be used to yield accurate recognition results. In this work, we propose two auxiliary constraints from the perspective of information consistency to enhance the backbones, which can keep the whole model end-to-end trainable and don't require any complicated training strategies.
- **Ronglai Zuo** and Brian Mak, "Local Context-aware Self-attention for Continuous Sign Language Recognition", **InterSpeech**, Incheon, Korea, 2022.

  - Transformer is widely adopted in CSLR models, but the nature of self-attention may overlook local contextual information. In this work, to leverage both local and global contexts, we propose a dynamic Gaussian bias which can automatically adjust its window size to introduce local contexts to Transformer.

RESEARCH EXPERIENCES

Adversarial Learning for Semi-supervised Lung Tumor Segmentation. (Bachelor Thesis)
USTC, China, *Jan. 2020 - May 2020*

- Leverage GAN to fulfill semi-supervised learning for lung tumor segmentation.

- Get a DICE coefficient of 0.765 with half training data and exceed the baseline performance by 3.4% on a private dataset.

Voxel-based 3D Neuroimage Segmentation. TAMU, USA, *Jul. 2019 - Sep. 2019*

- Get familiar with PyTorch and works on voxel-based 3D image segmentation.
- Completely reimplement the multi-GPU version of the SOTA work, Flood-Filling Network.

WORK EXPERIENCES

Microsoft Research Asia *Apr. 2022 - Jul. 2023*

- Research Intern: Sign Language Recognition and Translation.
- Mentor: Fangyun Wei

TEACHING ASSISTANT

- COMP2011 Programming with C++ *Spring 2021, Fall 2021*

AWARDS

- Outstanding Graduate of USTC *2020*
- Bronze Award for Outstanding Students of USTC (Top 30%) *2017, 2018, 2019*

SERVICES

- Journal Reviewer: **TMM**

SKILLS

- **Program Languages:** Python, Matlab, C/C++, LaTeX
- **Operating Systems:** Linux (Ubuntu, CentOS), Windows
- **Development Platforms and Softwares:** PyTorch
- **Languages:** Mandarin(native), English(fluent)