Zhisheng Zheng

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Education

- **Zhiyuan College, Shanghai Jiao Tong University** — Shanghai, China
  Major in Zhiyuan Honors Program of Engineering (Top 5%) — *Sept. 2020 - Jun. 2024 (expected)*
- **School of Electronic Information and Electrical Engineering, SJTU** — Shanghai, China
  Major in Information Engineering; GPA: 3.78 — *Sept. 2020 - Present*

Education Performances

- **MATH1205: Linear Algebra** (97/100)
- **CS1501: Programming Thinking and Methodology (C++)** (96/100)
- **CS249: Intelligent Speech Technology** (95/100)
- **NIS1336: Computer Programming Practice** (99/100)
- **MS328: Big Data Analytics Methodology** (99/100)
- **DES1350H: Innovative Thinking and Modern Design (Honors)** (96/100)

Research Experience

- **MoE Key Lab of Artificial Intelligence, AI Institute, X-LANCE Lab, SJTU** — Shanghai, China
  Research Intern, Advised by Prof. Xie Chen — *Dec. 2021 - Present*
  - **Self-supervised Speech Representation Learning: Wav2vec, HuBERT and data2vec**
    Utilized open-source framework *Fairseq* by meta to extract general-purpose and powerful speech representation from raw audio. Reproduced the results of these SSL models (wav2vec, HuBERT and data2vec), on Automatic Speech Recognition.
  - **MT4SSL (Submitted to ICASSP'23, currently under review, 2nd Author)**
    Proposed a new multitasking learning framework for SSL that outperforms other SSL methods by nontrivial margins (more than 10% relative gain) on the LibriSpeech benchmark and demonstrates better convergence. My work was to help the 1st author run some key experiments on different datasets and analyze the corresponding results.
  - **Explore Methodologies for Unsupervised Speech Recognition and Unsupervised Fine-tuning Data Selection**
    Reproduced works by Alexei Baevski and Alexander H.Liu (wav2vec-U 1.0 & 2.0) in an attempt to reconstruct decoding unit and optimize regularizations of these two models for better perfermances on ASR. Conducted unsupervised fine-tuning data selection based on above superb models, significantly improving their performances (reducing relative WER by more than 30%) on datasets like LibriSpeech and GigaSpeech.

Scholarships

- **Tencent Scholarship** (Top 2%)
- **Zhiyuan College Honors Scholarship** (Top 5%)
- **SJTU Excellent Scholarship** (Top 30%)

Skills

- **Coding**: Python, C, C++, Shell.
- **Languages**: Chinese (Native); English (TOEFL 90).