



109-1 Research Topics

October 22, 2020



Speech Representation

- Build a better representation for tasks involving speech
- Schedule:
 - Read papers to follow up the recent trend on speech representation learning (2-3 weeks)
 - Hands-on: **Mockingjay** (ICASSP 2020, from our lab) and **Wav2vec 2.0** (from Facebook) (3-4 weeks)
 - Pre-training, probing, fine-tuning
 - **Contribute** to the open-source project with me
 - Explore tasks where the pre-trained speech representation can make **huge differences** (3-4 weeks)
 - Already done in ASR
 - Spoken term detection? speech translation? spoken language understanding? or others.
- Contact: 楊書文, r08944041@ntu.edu.tw



Voice conversion

Voice conversion (VC) technologies aim to convert the utterance(s) from one speaker to sound like produced by another speaker.

In the following weeks, you'll be doing:

- Studying some excellent NN-based VC papers (2-3 weeks)
- Training and testing some open-source VC models (2-3 weeks)
- Implementing an one-to-one VC approach (2-4 weeks)
- *(Optional)* Implementing a many-to-many VC approach

Contact me (林義聖 r08922048@ntu.edu.tw) if these interest you.

Meta-TTS

- Meta Learning: learn to learn
 - 學習怎麼學得更好, 常用於少量樣本資料的微調(fine-tune)
- Text-to-Speech: 語音合成
- Meta-TTS: 透過少量資料fine-tune 合成 unseen speaker 的聲音
- 本學期時間規劃:
 - 閱讀相關文獻(2 weeks)、實作TTS(2-4 weeks)
 - 實驗meta learning(剩下所有時間)
- 聯絡我: 黃淞楓
- email: f06942045@ntu.edu.tw
- 主旨: [Meta-TTS專題] 系級__名字
- 內文: 想和我討論的事?
- 如果想組隊, 一個人寄信即可(在內文告知隊友有誰)

