Chin Yun Yu

Engineer

(+886)938-905266 | ya70201@gmail.com | yoyololicon | chin-yun-yu-539570160

Education

National Chiao Tung University *Taiwan*

Bachelor of Computer Science, GPA: 3.85/4.0 *Sep. 2014 - June 2018*

Experience

Vive R&D, HTC *Xindian, New Taipei*

Engineer *June 2019 - PRESENT*

- Designed robust real-time VAD algorithm for VR headset.
- Did some primary research on applying various Deep Learning methods on HRTF data.

Institute of Information Science, Academia Sinica *Nangang, Taipei*

Research Assistant *Feb. 2018 - Dec. 2018*

- Developed time-domain autoregressive vocoder model for music signal synthesis.
- Developed differentiable Multi-layered Cepstrum music transcription model and trained it on large scale data.
- Implemented WaveNet, FFTNet and WaveGlow model in PyTorch.

Institute of Information Science, Academia Sinica *Nangang, Taipei*

Summer Intern *July 2017 - Aug. 2017*

- Developed a robust and efficient multi-pitch estimator by stacking multiple Fourier transform and non-linear transform, to resolve the missing F0 problem.

Open Source Projects

pytorch-NMF

- A PyTorch package that can do NMF (Non-negative Matrix Factorization) on both CPU and GPU.
- The PyTorch autograd function is used to derive multiplicative update weights when computing NMF.

spectrogram-inversion

- A PyTorch package that include some classic spectrogram inversion algorithms, so users can add them into the model training process.

constant-memory-waveglow

- A implementation of WaveGlow model which only require constant memory, make it possible to train very deep model on small machine.

Matchering

- An online mastering web application that can master audio tracks by matching it with the characteristic derived from user provided reference tracks.
- Helped migrate the Matlab scripts into Python language, and designed a custom fast parallel limiter algorithm to help the situation of running on web server.

Publications

Multi-layered Cepstrum for Instantaneous Frequency Estimation *GlobalSIP*

Chin-Yun Yu, Li Su *2018*

Honors and Awards

Academic Achievement Award *NCTU*

Department of Computer Science *Fall 2017*

Distinguished Honor Award *NCTU*

Undergraduate Research Contest, Department of Computer Science *Fall 2017*

Skills

Programming Languages	Python, C/C++, C#, Matlab
Libraries	PyTorch, TensorFlow, Keras, NumPy, SciPy
Music Information Retrieval	Pitch Estimation, Music Transcription/Synthesis
Signal Processing	Audio Mixing, DSP, Audio Feature Extraction/Selection, HRTF, Spherical Harmonics
Deep Learning	CNN, RNN, Autoregressive Model, VAE, Generative Flow, Graph Convolution Networks

Leadership and Activities

Digital Music Creation Club *NCTU*

President *2015 - 2016*

- Organize events, teach club members song writing and audio mixing techniques, invite professional speaker for talks, collaborate with other musical clubs.

Catalyst *Taipei*

Guitarists *Sep. 2018 - PRESENT*

- Released debut EP on various music streaming platforms, and have featured in well known mobile rhythm game *Cytus 2*.

YCY *Taoyuan*

Guitar/Compose/Recording/Mixing/Mastering *Feb. 2018 - PRESENT*

- Released a few singles on YouTube.