

# TZU CHUN, HSU

New Taipei, Taiwan

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## EDUCATION

### Zhejiang University

*Bachelor of Computer Science*

- Last two years cumulative GPA: 3.30/4.00

09 2016 – 07 2020

Hangzhou, China

## PROJECTS

### Chord learning and adversarial framework for symbolic music generation [↗](#)

04 2018 – 05 2019

Hangzhou, China

- Proposed a chord learning framework for multi-track symbolic music generation based on VAE and GAN, and implemented with PyTorch.
- Improved VAE to extract chords more easily.
- Improved WGAN-GP to solve mode collapse problem, vanishing gradient problem, and bad results of some audio tracks.
- Proposed three distinct loss functions, element-wise, discriminator dominant, and hybrid.

### Voice Conversion Based on Generative Adversarial Networks [↗](#)

03 2020 – 05 2020

Hangzhou, China

- Improved StarGAN-VC2 based on multi-speaker non-parallel corpus.
- Introduced WGAN-div to resolve k-Lipschitz constraint of WGAN.
- Provided new generator network by replacing cIN layer with trainable AdaIN layer for better performance.
- Introduced neural vocoder, WaveGlow, to generate high quality speech from mel-spectrograms.

## AWARDS

### CCCC-Mobile Application Innovation Contest

09 2018

*First Prize*

Hangzhou, China

### The 4th "Internet+" Innovation and Entrepreneurship Competition

09 2018

*Gold Medal Award*

Hangzhou, China

### Hong Kong, Macau, and Taiwan student scholarship

09 2018

*Third Prize*

Hangzhou, China

### College Students' Innovative Entrepreneurial Training Plan Program (SRTP)

04 2018 – 05 2019

*Excellent*

Hangzhou, China

### Hong Kong, Macau, and Taiwan student scholarship

12 2019

*Second Prize*

Hangzhou, China

## EXPERIENCE

### The University of British Columbia Vancouver Summer Program

07 2019 – 08 2019

Vancouver, Canada

- Intensive 4-week academic program for 2 courses, "Algorithms and the World Wide Web" and "Building Modern Web Applications".
- Collaborated with my teammates to complete our projects as team leader.
- Experienced the active study atmosphere in UBC, and broadened my horizons.

## TECHNICAL SKILLS

- **Languages:** Python, Java, C, JavaScript
- **Technologies/Frameworks:** PyTorch, Keras, OpenCV, Spring Boot, Vue.js, MySQL, Flask, Node.js, MATLAB, Git, MongoDB,  $\text{\LaTeX}$