Yi-Lin Tuan

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Research Interests

Deep learning, machine learning, natural language processing and their application

Education

- **National Taiwan University, Taipei, Taiwan** *Sep. 2013 - June. 2017*
  B.S. in Electrical Engineering
  Overall GPA: 4.13/4.30
  Relavent coursework GPA: 4.18/4.30

Publications

[1] **Yi-Lin Tuan** and Hung-yi Lee. *(under doubled-blind review)*. submitted to the Conference on Empirical Methods in Natural Language Processing, 2018.

[2] **Yi-Lin Tuan***, Jinzhi Zhang*, Yujia Li, and Hung-yi Lee. *(under doubled-blind review)*. submitted to the Conference on Empirical Methods in Natural Language Processing, 2018.

[3] Che-Ping Tsai*, **Yi-Lin Tuan***, and Lin-shan Lee. *Transcribing Lyrics from Commercial Song Audio: the First Step towards Singing Content Processing*. to appear in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2018.

* indicates co-first authors

Teaching Experience

- **CommE 5045,** *Feb. 2017 - July. 2017*
  Machine Learning and Having it Deep and Structured
  Instructor: Prof. Hung-yi Lee
  Tutored the 96 students in GAN, deep reinforcement learning, and chit-chat chatbot.

- **EE4049, Special Project** *Oct. 2017 - present.*
  Instructor: Prof. Lin-shan Lee and Prof. Hung-yi Lee
  Guided and advised 4 teams to build chit-chat chatbot.
  The topics including: personalized, multi-turn chatting, analysis of GAN, and deep reinforcement learning for chatbot.

Research Experiences

- **National Taiwan University** *Aug. 2015 - Present*
  Research Assistant and Undergraduate Researcher
  Advisors: Prof. Hung-yi Lee and Prof. Lin-shan Lee
  1. Research on natural language generation and understanding.
  2. Research on deep reinforcement learning with large action space.
  3. Research on generative models (co-advised by Prof. Biing-Hwang Juang).
  4. Research on lyrics recognition.

- **Second Reviewer**
  1. Natural language processing conference and journals: ACL 2018, CSL 2018

Awards & Honors

- **Presidential Award (top 5%; rank 1/169)** *Mar. 2014*
- **NTU Electrical Engineering 1960 Alumni Scholarship (US$3,000)** *Sep. 2014, Sep. 2016*
- **Outstanding Achievement Award (top 25)** *Aug. 2016*
  Innovate Asia Design Contest, Altera, Intel

Term Projects

- **Automatic Piano Accompaniment Robot [video]** *Oct. 2016 - Feb. 2017*
  CSIE 5047, Robotics
  Designed the algorithm and mechanism to make a robot can do piano accompaniment automatically.
- **Realtime Pitch Tracking Game [video]** *Apr. 2016 - June 2016*
  NM 7613, Music Signal Analysis and Retrieval
  Designed a 3D game controlled by unvoiced sound and the realtime detected pitch of voice sound.
- **Mobile 3D Projector [video]** *Oct. 2015 - Aug. 2016*
  EE 3016, Electrical Engineering Lab (Digital Circuit)
  Designed a projector for 3D objects, and optimized the memory and time efficiency.
- **Language Sentiment Classification** *Oct. 2015 - Aug. 2016*
  EE 4037, Introduction to Digital Speech Processing
  Modified the classification of positive-negative sentiment of text by deep learning and external POS tagging.

Extracurricular Activities

- **Melody & Lyrics Club, National Taiwan University** *Sep. 2013 - June. 2015*
  - **Director and Playwright of Musical**: leaded a 18-people team to perform in public.
  - **Minister of Activities Department**: held activities, and represented the club to perform.

Relavent Coursework

- **Machine Learning / Artificial Intelligence**
  Deep and Structured Learning†, Data Analytics and Modeling†, Robotics†, Music Signal Analysis and Retrieval†, Digital Speech Processing†.
- **Fundamental Programming and Mathematics Courses**
  Algorithms, Data Structure and Programming, Computer Programming, Introduction to Computer, Computer Architecture, Probability and Statistics, Linear Algebra, Calculus.

† indicates graduate-level course

Skills

- **Languages**: Chinese(Native), English(Advanced)
- **Programming Languages**: Python, C/C++/C#, Matlab, System Verilog
- **Tools**: Tensorflow, Theano, Kaldi, Praat, Git, LaTeX