Yingying Zhuang

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Education Background

Beijing University of Posts and Telecommunications (BUPT)
Joint degree with Queen Mary University of London
09/2016 - 06/2020 (Expected)

- **Major:** E-Commerce Engineering with Law; **GPA:** 86.53/100

Publication

Jie Zheng, **Yingying Zhuang**, Yuezhang Zheng, Andi Xia, ***Music Genre Classification with Self-attention Mechanism***, 2019 International Computer Music Conference and New York City Electroacoustic Music Festival (ICMC-NYCEMF 2019). （submitted）

Research Experience

Visual Dialog Based on Neural Networks **3/2019–Present**
Beihang University Intelligent Computing and Machine Learning Lab

- Applied neural networks to deal with a visual dialog task based on NLP and CV, in order to increase the accuracy of predicted answer options;
- Used CNN with attention mechanism for image processing and LSTM for question processing as well as the content of history conversations;
- Tried to combine Glove and Elmo for better word representation.
- Applied the encoder-decoder framework, an encoder that converts the input into a vector space, and a decoder that converts the embedded vector into an output;
- Aimed to enhance the Multimodal Machine Learning association representation.

Small-footprint Keyword Spotting on Microcontrollers **11/2018 – 3/2019**
Tsinghua University iVip Research Group

- Performed neural network architecture evaluation and exploration for running Key word spotting (KWS) on resource-constrained microcontrollers;
- Trained a new KWS model based on GRU.
- Designed a quantification model applying ADMM algorithm to compress space so that it can reduce energy consumption on resource-constrained microcontrollers.
- Optimized neural network architecture with hardware resulting efficiently on memory and compute constrained microcontrollers;

Music Genre Classification with Self-attention Mechanism **8/2018 – 11/2018**
Beijing University of Posts and Telecommunications

- Applied deep learning to Music Genre Classification tasks;
- Designed a transformer classifier to classify music genre instead of traditional

RNN model;
- Utilized solely the attention mechanism in this model;
- Used hierarchical topology consistently with the layering of music in the time and frequency domains.

Research and Realization of 3D Vehicle Inspection Based on Deep Learning **06/2018 - 04/2019**

Beijing University of Posts and Telecommunications

- Achieved quick and efficient real-world 3D object vehicle inspection by using deep learning technique, enhancing the application efficiency of image detection technology in reality and the development of autonomous vehicles;
- Conducted a 6 DOF 3d object detection based on the RGB image obtained from monocular in order to better apply to real scene;
- Operated Fast-RCNN algorithm, generated candidate box placed in the ground plane by using a 3D bounding box, rated each candidate box projected onto the image plane, optimized the algorithm to achieve results with high precision, thus to build the 3D description of the model.

Honors And Awards

- Honorable Mention of Mathematical Contest In Modeling **2018**
- Second Class Scholarship, BUPT **2018**
- First Class Scholarship, BUPT **2017**
- Merit Student (twice), BUPT **2017 &2018**

Other Information

- **Computer Skills:** Mastered Java, C, Python, MATLAB.
- **Social Practice:**

  Divisional Officer, The Institution of Engineering and Tchnology (BUPT branch); Secretariat Officer of IEEE BUPT branch; Volunteer of China Paleozoological Museum; Pingxifu Primary School Charity Teaching Activities; Volunteer Teaching Activities in the affiliated primary school of BUPT; Subway Volunteer; Campus Chenguang Volunteer Activities; Host of IET Global English Speech Competition (BUPT branch).