

Mingyang Kou

Resume for Graduate School Admissions

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Education

2015–2019 **Bachelor of Engineering**, Major in Computer Science and Technology, Tsinghua University, Beijing, China.

Skills

Languages Mandarin(native), English(basic, passed CET-6)
Programming C#, C/C++, JAVA, Python, Matlab, JavaScript, HTML/CSS, VHDL, Assembly(x86, x86-64, MIPS).
Languages
Framework Tensorflow, Keras, Caffe, Django, Vue, Wechat Mini Program
Courses Artificial Neural Network, Machine learning, Hardware, Software, Computer Networks, Computer Graphics

Projects

- September-February 2017-18 **Neural Image Manipulator using DRAGAN**, Neural Network(GAN).
I. Crawl the anime images on website.
II. Initialize the images and use illustration2vec to get the vectors for training.
III. Use images and vectors to train DCGAN, WGAN and DRAGAN with Residual Block.
IV. Randomly generate a set of vectors and put them into the generator to get an anime image.
V. Get sketches from users, then use the sketches to edit the initial vectors and get a new anime image.
VI. Our project has higher quality of edit, clarity and authenticity than baseline.
- May-August 2017 **Proposed efficient method for full text retrieval by given multiple keywords**, Naive Bayes and TF-IDF.
Mentor: Dr. Jinjun Xiong in IBM and Professor Hailong Yao in Tsinghua University
I. Estimating the probability of the correlation between keywords with word2vec and Bayes inference.
II. Add the mutual information of Tf-Idf with the consideration of the keywords are correlate.
III. The proposed method achieves 99.6% at the average precision of 10% and outperforms than the existed baseline models.
- September-December 2017 **Commercial Auction and Trading Competition System for ASDAN**, Python/Django, Vue and Wechat Mini Program.
Team leader, architect and developer.
A simple system on webserver, web browser and Wechat Mini Program. Designed for ASDAN to manage the whole procedure of commercial auction and trading competitions.
- September-November 2017 **THCOMIPS16e: A SoPC**, VHDL and Assembly.
Architect and developer.
A 5-staged pipeline microprocessor with a MIPS16e-like instruction set architecture.
- April-June 2017 **Minecraft: A 3D game on FPGA**, VHDL.
Team leader, architect and developer.
Pure hardware implementation, a 3D game on FPGA. Serial Interface, keyboard and VGA support.

Honors and Awards

- 2014 The third prize of the 30th Chinese Mathematical Olympiad.
2014 The second prize of National Olympiad in Informatics. (top 20%)
2014 The first prize of China Team Selection Competition for International Olympiad in Informatics. (rank 7)
2014 The second prize of Asia-Pacific Informatics Olympiad. (top 15%)
2013 The third prize of National Olympiad in Informatics. (top 50%)

Research Interest

Natural Language Processing, Text generation, Text classification, Text similarity analysis, Deep neural network for text processing(RNN, LSTM, GRU, AutoEncoder).

Generative Adversarial Nets, *Image to Image*, *Image to text*, *Image styler transfer*. *DCGAN*, *Cycle GAN*, *Wasserstein GANS*, *DRAGAN*.

Computer Graphics, *Image generation*, *Image Processing*, *Bezier Curve*, *Progressive Photon Mapping*, *DCNN*, *Faster R-CNN*.