JIARUI GAO

School of Computer Science
Fudan University
Shanghai, China

Phone: +86 15121192827
Email: jrgao0614@gmail.com
Homepage: http://jiaruigao.com

EDUCATION

School of Computer Science, Fudan University   Sept 2014 - present
Bachelor in Computer Science and Technology, Outstanding Student Honor Program
GPA: 3.54/4.0, Rank: 18/118, Major GPA: 3.66/4.0

PUBLICATIONS

Jiarui Gao, Yanwei Fu, Yu-Gang Jiang, and Xiangyang Xue. *Frame-Transformer Emotion Classification Network*, In ACM International Conference on Multimedia Retrieval(ICMR), 2017 [pdf][code and data]
  ○ Propose a unified framework for solving emotion classification, emotion attribution and emotion-oriented summarization jointly with only video-level supervision.
  ○ Adopt spatial transformer network at temporal scale for video key segments extraction, i.e. video detection.
  ○ Re-annotate the Ekman6 dataset as a benchmark for emotion attribution task.

Guoyun Tu, Yanwei Fu, **Jiarui Gao**, Boyang Li, Yu-Gang Jiang and Xiangyang Xue. *A Multi-task Neural Approach for Emotion Attribution, Classification and Summarization*, Under review of IEEE Transactions on Multimedia
  ○ Propose a new neural approach Frame-Bi-stream Emotion Attribution-Classification Network, an end-to-end trainable neural architecture that tackles emotion attribution and classification simultaneously.
  ○ Propose a dynamic programming method for video summarization based on the output of attribution network.
  ○ Compared to the state-of-the-art performance on *Ekman dataset*, we improve classification accuracy by 6.1%.

EXPERIENCE

BigVid Lab, Fudan University   Nov 2015 - present
Research assistant supervised by Prof. Yanwei Fu & Prof. Yu-gang Jiang
  Video Emotion Recognition and Detection
  ○ Xiyuan project *Video Multi-emotion Recognition* funded by Fudan Undergraduate Research Opportunities Program.
  ○ Implement video key frame extraction based on frame encoding approach and visual attention model.
  Zero Shot Learning for Image Recognition
  ○ Propose a graph-based approach for retrofitting word vectors by encouraging linked words and images to have similar semantic embeddings and differentiating the unlinked pairs.
  ○ Propose a better visual-semantic embedding regarding to the tuned semantic space.

Corporate & Funding Technology, Morgan Stanley   Jul 2017 - Sept 2017
Summer analyst supervised by Xiaozhong Zhang
  Flow Engine for Outside Business Interest System
  ○ Implement an engine rendering decision process with a given set of tree-like rules.
  ○ Front-end: Graph algorithm design and implementation in AngularJS2.0.
  ○ Back-end: Database design and implementation in Java Spring Framework and DB2.

SIDE PROJECTS

Image Shadow Detection and Removal - Course project for Digital Image Processing. Propose algorithms using only region-based image appearance features, no dataset or model training needed.[pdf][code][slides]
Speech Recognition for Words - Course project for Digital Signal Processing and Speech Signal Analysis using MFCC feature and LSTM in Keras.[code]
A Cost-based Approach for Fast Intrusion Detection - Propose a cost-based approach using decision tree model and neural networks. Experiments are carried out on benchmark dataset *NSL-KDD*. [pdf][code]
Encrypted File System - Implement a file system which allows users to store and share data through an untrusted server, using both RSA and AES encryption algorithms.[pdf][code][design]

SELECTED AWARDS

Xiyuan Sholarship, Fudan University   May 2017
Second Prize of the Scholarship for Outstanding Students at Fudan University   Sept 2017
First Prize of Computer Science Outstanding Student Honor Program Scholarship, Fudan University   Nov 2017

SKILLS

Programming Languages: Python, Matlab, C/C++, Java, Typescript   **Libraries:** Tensorflow, Keras
TOEFL: 107 (R29 L30 S23 W25)   **GRE:** 320 + 3.5 (V152 Q168 AW3.5)