Jiahe Xu

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EDUCATIONAL BACKGROUND

- **Jilin University** *09/2016 - 07/2020*
  College of Computer Science and Technology, **Tang Ao-qing Honors Program in Computer Science**
- **Cumulative GPA: 89/100**
- **Massachusetts Institute of Technology** *08/2019*
  2019 MIT Machine Learning & Artificial Intelligence Short Course
- **Johns Hopkins University** *08/2020*
  Whiting School of Engineering,Robotics MSE

RESEARCH & PROJECTS

Research on Facial Expression Recognition

Research Assistant *Dept. of EE, Tsinghua University* *07/2019-09/2019*

- Conducted research on two methods for realizing facial expression recognition: depth neural network and convolution neural network.
- Analyzed algorithms of two methods and summarized the advantages and disadvantages, through reading references such as 'FaceNet A Unified Embedding for Face Recognition and Clustering', 'OpenFace A general-purpose face recognition', 'Deep Face Recognition', and so on.

Face Recognition System

Research Assistant *Dept. of EE, Tsinghua University* *07/2019-09/2019*

- Implemented a face recognition system which is able to locate and track face in a video stream, and then identify the face image according to the features of known faces in database. The system is able to display the name of the known person. Improved and implemented the algorithms used for face detection, tracking and recognition.

Camera Imaging Characteristics-based Data Augmentation for Deep Learning

- Exploring effects of camera imaging characteristic-based data augmentation methods for different deep learning tasks.

Machine Learning for Data Analysis

- Conducted data classification with various machine learning and feature selection algorithms. Implemented separate classification of different types of features, and then selected the best validation model through cross validation.

LEGO Segway & Ball-bot

- Developed a reliable control system for Segway and Ball-bot. Applied hand-eye calibration and Kalman Filter for optimization. Implemented a Python controlling program running on robot.

New Fire-fighting Robot

- Utilized raspberrypi to control various parts of the robot car to achieve the functions of extinguishing fire and saving people.
- Learned algorithms of computer vision and machine learning.

Intelligent Energy Saving Lamp System

- Designed and implemented an intelligent energy-saving lamp system, which enables the administrator to view the on-off status of the lamp online, and to turn the lamp on and off.

Network Path Planning System

- Implemented a program to find the best path between two points in a dynamic network. Solved the problem with the knowledge of graph theory and data structure by using C++.

PROFESSIONAL SKILLS

Programming Languages: C/C++, Java, Javascript, Python, Matlab, PHP,VHDL