Yide Gu

Email: guyide@umich.edu or Tel: (+1) 734 263 4081

EDUCATION

University of Michigan-Ann Arbor (UM) Michigan, US Sep. 2018-Dec. 2020
Master of Science in Computer Science and Engineering GPA: 3.85/4.00
Master of Science in Mechanical Engineering (dual master's degree) GPA: 3.90/4.00
Shanghai Jiao Tong University (SJTU) Shanghai, China Sep. 2014-Aug. 2018
Bachelor of Science in Electrical and Computer Engineering GPA: 3.60/4.00

WORKING EXPERIENCE

Sodexo USA, Maryland *Technical Solution Engineer* May 2020-Aug. 2020
- Analyzed financial data and provided suggestion from engineering perspective
- Designed database to store COVID-19 related transactions and generated reports
- Productionized MapReduce pipeline to generate and preprocess training data for the model

Panasonic Coop, Shanghai *Research Engineer* May 2018-Aug. 2018
- Developed a system to fulfill gesture recognition task under complex background
- Segmented hand gestures from complicated background by using computer vision algorithms
- Designed the structure for CNN (VGG16 model) to classify gestures and verified its accuracy
- Delivered an interactive game application to demonstrate improved classification performance

Shanghai General Motor, Shanghai *System Engineer* Jun. 2017-Aug. 2017
- Consolidated management system of powertrain control department
- Improved backend services implementation and optimized tree data structure stored in database
- Implemented line detection for road recognition using feature extraction techniques
- Designed and deployed the entire employment management pipeline

RESEARCH EXPERIENCE

4 Progress Robotics Lab Research Assistant, UM Prof. Chad Jenkins May 2019-Aug. 2019
- Developed novel Scene-Graph based Partially Observable Monte Carlo Process (SG-POMCP) method to solve POMDP problem with scene graph as prior knowledge
- Consolidated remote communication system between ROS robot agent and end-users
- Formulated and implemented belief-state updates by using particle filter methods
- Visualized robot trajectory and environment by using publisher/subscriber pattern and RVIZ

Deep Learning Lab Assistant, UM Prof. Honglak Lee Feb. 2019-May 2019
- Integrated and trained an outperforming Monocular Depth Estimation model for 3D object detection and depth estimation
- Evaluated different machine learning algorithms (regression, clustering, SVM, etc.) and implemented CNN, RNN, LSTM, style transfer, GAN, CVAE neural network models
- Enhanced Mask-RCNN algorithm to detect 3D bounding box using data sampled from a single camera and generated the corresponding left/right image with GAN model

Robotics Institute of SJTU, SJTU Prof. Fu Zhuang Jul. 2016-Aug. 2016
- Researched on multiple heuristic search algorithms to improve AI perception-action strategies which improved performance of a professional service robot
- Designed circuits and feedback loops of the control system and optimized parameters of Mecanum wheels to achieve high accuracy in speed control of the omnidirectional mobile robot

PROGRAMMING PROJECTS

Web Application Development Jan. 2020-Apr. 2020
- Designed an application using flask framework and deployed on AWS
- Implemented MapReduce tasks using Python processes, threads libraries and developed communication between master and worker servers using sockets library
- Built a search engine with index server and Hadoop framework to generate inverted index

TECHNICAL SKILLS

- Environments: Linux, Windows, Android
- Languages/tools: C/C++, Python, C#, Java, Assembly (Arm Thumb2, LC2K), Verilog, SQL, html, CSS, JavaScript, Vue, Bootstrap, jquery, MATLAB, MySQL, SQLite3, gdb, git, MapReduce, AWS