Tianxiao Zhao

Drottning Kristinas Väg 71, Lgh 1305, 11428, Stockholm, Sweden
+46-765847420 | tzh@kth.se
Github: https://github.com/txzhao

Education

KTH Royal Institute of Technology, School of Electrical Engineering Sep.2016-Present

- Candidate for Master of Science in Systems, Control and Robotics, expected June 2018
- Full scholarship for excellence academic performances from KTH
- Coursework highlights: Deep Learning in Data Science, Machine Learning, Pattern Recognition, Artificial-Neural Networks and Other Learning Systems, Image Analysis and Computer Vision, Applied Estimation

Zhejiang University, College of Control Science and Engineering Sep.2012-Jun.2016

- Bachelor of Engineering in Automation (GPA: 3.89/4.0)
- Coursework highlights: Principles of Automatic Control, Digital Signal Processing, Image Processing Wheeled Mobile Robots and Lab Training, Bipedal Mobile Robot Technology, Object-oriented Programming

Zhejiang University, Chu Kochen Honors College May.2013-Jun.2016

- Minor: Advanced Honor Class of Engineering Education (*40 students selected from 5400, received honors coursework training in Modern Engineering and cross-disciplinary sciences*)

Research Experience

Semantic Segmentation in Deep Learning, Stockholm May.2017-Aug.2017
Advisor: Associate Prof. Josephine Sullivan

- Accomplished a TensorFlow implementation of the literature work Fully Convolutional Networks for Semantic Segmentation, CVPR 2015
- Replaced the referenced VGG net with GoogLeNet (Inception v3), and fine-tuned all layers through the whole net
- Tested the fully convolutional networks on dataset PASCAL VOC and MIT Scene Parsing, proved that VGG net outperforms GoogLeNet in the field of image segmentation

Face Detection and Tracking Project, Stockholm Nov.2016-Jan.2017
Advisor: Associate Prof. John Folkesson

- Implemented Haar Feature-based Cascade Classifiers to detect faces and obtain their initial states
- Applied Particle filter to track moving faces in real-time based on Matlab, improved tracking performance using color histogram as measurements of features

Wheeled Robot Design Workshop, Stockholm Sep.2016-Jan.2017
Advisor: Prof. Patric Jensfelt

- Created a closed loop control with encoder signal as feedback for the wheeled robot on Arduino platform
- Implemented a Hough transform to detect round objects with OpenCV, controlled robot to move with the same radius of the circle in the image
- Achieved face detection and hand gesture control using OpenCV, controlled the wheeled robot to follow a face and act differently based on hand patterns

Work Experience

Ericsson AB, Stockholm Jun.2017-Aug.2017
Summer Intern, Machine Learning Group

- Created a service portal (RLaaS) for easy comparing different reinforcement learning algorithms and environments, and tuning parameter settings
- Accomplished interactive visualization of results comparison using d3.js and jQuery
- Built up file management system for different users and different runs locally, mapped it to root location of the web portal with symbolic link

Hangzhou Blink Co., Ltd., Hangzhou Apr.2016-Jun.2016
Startup company specializing in wearable and smart devices
Part-time Employee, Software Group

- Implemented the Balance filter and Kalmen filter for integrating accelerometer and gyroscope measurements to obtain estimated state of MPU6050 with fewer uncertainty
- Built a 3D tracking interface with OpenGL, achieved real-time orientation tracking for IMU

Googol Technology (Shenzhen) Ltd., Shenzhen Aug.2015-Oct.2015
First company in Asia Pacific region specializing in motion controllers
Summer Intern, Robotics Research and Development Division

- Established the simulation platform for pre-testing controllers of Fanuc six-axis industrial robot
- Implemented robust and adaptive control, promoted controllers' resistance to undesired disturbances and parameter inaccuracy, reduced settling time to 0.3s when controlling the end effector to draw a circle in Y-Z plane

Honors and Awards

RoboCup, Humanoid League, KidSize Soccer Competition (2nd place)	RoboCup Federation	2015
Interdisciplinary Contest in Modeling (Meritorious Winner)	COMAP (U.S.A)	2015

Extracurricular Activities

Volunteer, 2015 International Conference on Climbing and Walking Robots (CLAWAR), Hangzhou	Sep.2015
Participant, Summer Camp for Elite Students 2015 in HKUST, Hong Kong	Jul. 2015

Skills

Programming: Matlab, Python, C, C#, Java, R, PHP, Javascript, HTML, CSS
Language: Chinese (native), English (fluent)