Yuhang Ming

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Education

Doctorate of Philosophy Sep. 2018 – Sep. 2022
Semantic SLAM in Computer Science
University of Bristol (UoB)

Master of Science Sep. 2016 – Apr. 2018
GPA: 3.50/4.0
Signal & Image Processing in Electrical Engineering
University of California, San Diego (UCSD)

Bachelor of Science Aug. 2014 – May 2016
GPA: 3.78/4.0 (Magna Cum Laude)
Electrical Engineering
Minor in Mathematics
University of Missouri - Columbia (Mizzou)

Bachelor of Engineering Sep. 2012 – Jul. 2016
GPA: 3.86/4.0
Electronic Information Engineering
University of Electronic Science & Technology (UESTC)

Research Experience

A.I. Lab of Alibaba *Group*
Intern Algorithm Engineer Apr. 2017 – Jun. 2017

- Built a monocular semantic SLAM system based on ORB_SLAM2 and AprilTag and outperformed monocular ORB_SLAM

Research Institution of Hangzhou HikVision *Digital Technology Co., Ltd.*
Software Development Engineer Jun. 2017 – Aug. 2017

- Investigated the performance of SLAM algorithm behind HoloLens
- Researched on VI-ORB algorithm and its C++ implementation

Center for Computational Imaging and Visual Analysis of Mizzou
Student Research Assistant Aug. 2015 – May 2016

- Built a 4-activity Android application from ground-zero using Java for the SmartMScope project
- Integrated with the image processing code from co-workers to make the app capable of analyzing the size and shape of seeds automatically

Project Experience

Feb. 2018 – Mar. 2018
Image Caption with Visual Attention
- Extracted features using the last convolution layer of pretrained VGG19
- Implemented a single LSTM layer with 1024 nodes to generate caption in PyTorch
- Tested with stochastic hard visual attention and deterministic soft visual attention

Jan. 2017 – Mar. 2017
Fundamental Matrix Estimation
- Detected corner features in images using Shi-Tomasi detector and Frstner operator in MATLAB
- Matched detected corners based on the correlation coefficients and rejects outliers using MSAC algorithm
- Implemented linear estimation of Fundamental matrix using DLT algorithm
- Performed nonlinear estimation of Fundamental matrix using Levenberg-Marquardt algorithm

Oct. 2016 – Dec. 2016
Cheetah Extraction
- Extracted feature vector using discrete cosine transform in MATLAB
- Compared the results of Bayesian Estimation using various size of datasets and different priors
- Tested the Expectation-Maximization approach based on Gaussian Mixture Models

Extracurricular Activities

Department of ECE, UCSD
Teaching Assistant Sep. 2017 – Mar. 2018

- TAed for Statistical Learning I (ECE 271A) and Statistical Learning II (ECE271B)

Study Abroad Summit of UESTC
Vice Chairman Sep. 2013 – Jan. 2014

- Initialized Weekly Coffee English to provide students who want to study abroad with a platform to practice their oral English with native English speakers

Awards

Mizzou Advantage Excellence in Undergraduate Research Award *Honorable Mentioned*
Mizzou Apr. 2016
IEEE-Eta Kappa Nu (the Honor Society of IEEE)
Mizzou Actives since Apr. 2016
Tau Beta Pi (the Engineering Honor Society)
Mizzou Actives since Apr. 2015
Second Class Scholarship, x2
UESTC Sep. 2013 & 2014