YUZHONG HUANG

CONTACT INFORMATION

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EDUCATION EXPERIENCE

Zhejiang University (ZJU), Hangzhou, China

College of Computer Science and Technology

- B.E. in Digital Media Technology, *July 2016*
- B.E. in Industrial Design (dual degree), *July 2016*
- GPA: 3.68/4.0, Ranking: 7/58

Singapore University of Technology and Design (SUTD), Singapore

Information Systems Technology and Design

- Exchange Student, *Sep 2014 - Dec 2014*

HONORS AND AWARDS

⋆ Ranked first in the Knowledge Base Population contest, NIST *Nov 2016*
⋆ Scholarship for Excellence in Research and Innovation, ZJU *Sep 2015*
⋆ Second Prize in Student Research Training Program, ZJU *May 2015*
⋆ Impressive Intern Award, Qunhe *Nov 2015*
⋆ Student Innovation Project Winner, SUTD *Dec 2014*
⋆ Outstanding Student Leaders Award, ZJU *Sep 2014*

ACADEMIC EXPERIENCE

Recursive Recurrent Neural Network for Event Extraction, ZJU
May 2016 - Present

- Key contributor in the ZJU Event Extraction System, which achieved a state-of-the-art F1 score of 68.7% and ranked third in the NIST TAC contest.
- Proposed a recursive recurrent neural network which utilized both parse-tree based semantic information and LSTM based history information. Introduced sparse coding pre-training and developed utilities to extract linguistic features.

Floor Plan Recognition by Convolutional Neural Network, Qunhe
Jun 2015 - Aug 2015

- Developed a recognition engine to automate the floor plan importing process.
- Adopted a Convolutional Neural Network to detect objects in the image and defined a size-invariant anchor system to locate these objects. Built a user interface to interactively revise the recognition results and utilized these revisions to train the network progressively.

Kinect Gesture Recognition System, ZJU *Feb 2015 - May 2015*

- Proposed a Kinect gesture recognition system based on Hidden Markov Model, which reduced the latency to a negligible level while increased the precision to 92%.
- Adopted FFT and PCA to extract high-level features from joints positions. Developed a demo which allowed users to play video games with their customized gestures.

Surveillance Video Synopsis System, Hikvision *Mar 2016 - Jun 2016*

- Adopted the Gaussian Mixture Model to detect moving foreground region, and implemented a GrabCut based method to extract objects from these regions.
- Developed an arrangement algorithm to place objects according to their order of appearance and movement path.

WiFi-based Indoor Locating System, SUTD *Sep 2014 - Dec 2014*

- Created a WiFi signal attenuation model, and formulated a locating algorithm based on position and signal strength of the received WiFi hotspots.
- Reformed the hand-coded algorithm into a regression model and designed a calibration system to tweak parameters for various hotspots and environments.

Room Size Measurement with Mobile Phone, Qunhe *Aug 2015 - Sep 2015*

- Introduced an approach to calculate displacement by integrating the accelerometer, gyroscope, and compass values. Adopted Kalman filtering to raise the accuracy.
- Exploited gait analysis to improve the stability. Developed an algorithm to concatenate displacements and composite into a floor plan.

Steganography for Copyright Protection, Qunhe *Sep 2015 - Oct 2015*

- Initiated a project to protect the copyright of released images with steganography.
- Designed a DCT based steganography method and evaluated its PSNR and MSE value. Developed a robust watermarking and detection system.

Virtual Reality Design Presentation Platform, Qunhe *Dec 2015 - Mar 2016*

- Devised a toolchain to convert design schemes into VR scenes. Implemented UV unwrap, model simplification and texture baking functionalities. Created a user interface based on Unity and Oculus Rift.

Music Visualization by Physical Simulation, ZJU *Jun 2014 - Aug 2014*

- Designed a music visualization system driven by physical simulation. Implemented FFT, raymarching, and rigid body dynamics algorithms. Developed with HTML5 and WebGL to provide multi-screen experiences.

Extra Curricular

Co-founder of Scifun Equipment Renting Platform *Jan 2014 - Sep 2014*

- Designed software architecture. Implemented some core modules including database schema, object model, and frontend-backend protocols.

Associate Director at Waverider Technical Club *Sep 2013 - Sep 2014*

- Developed campus online forums and mobile apps. Managed servers, setup virtualization environment, and performed migrations.

Co-founder of Linux User Group at Zhejiang University *Jan 2013 - Jun 2013*

- Organized talks about the use of open source software. Hosted knowledge-sharing sessions on recent research outcomes. Set up the ZJU Open Source Mirror Site.

Research Interests

Machine Learning Theory, Cognitive Computing, Statistical Machine Learning
Reinforcement Learning, One-shot Learning, Transfer Learning

Relevant Skills

Proficient: C/C++, C#, Python, Java, JavaScript, MATLAB, Theano, TensorFlow
Experienced: Perl, PHP, Ruby, Haskell, Lisp, Mathematica, CUDA, OpenGL, LaTeX