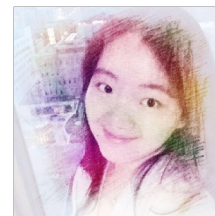


Senior Undergraduate
Department of Electronic Engineering
Tsinghua University, Beijing, China
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EDUCATION

Tsinghua University

Beijing, China

B.E, Electronic Engineering

- **GPA: 8-/100**
- **Related Courses**
 - **Researches:** Computer Graphics (95/100), Student Research Training (95/100)
 - **Mathematics:** Calculus A (95/100)
 - **Programming:** Advanced Matlab Programming and its Application (95/100), C/C++ Computer Program Design (94/100)

09. 2014 – 07. 2018

PUBLICATION

- [1] **Yuwei Qiu**, Huimin Ma and Lei Gao. “Hardness Prediction for Object Detection Inspired by Human Vision” accepted and to be published in 2017 *International Conference of Image Graphics*.
- [2] Lei Gao, Huimin Ma, Chenhao Liu and **Yuwei Qiu**, “A Human Visual Bionic Framework for Object Recognition”, accepted and to be published in *Journal of Graphics*.

RESEARCH EXPERIENCE

University of Pennsylvania, Department of Computer Information Science

Philadelphia, PA

General robotics, Automation, Sensing & Perception (GRASP) Laboratory

Research Assistant to **Prof. Jianbo Shi**

Project: Body Pose Prediction Based On First Person Videos

- Segmented body parts in pixel level from first person videos with complex context and high speed.
- Proposed possible body poses from limited hands gesture with **LSTM**.
- Completed 3-dimensional reconstruction of both environment and body pose from limited first person videos.
- Generated sequences for human body motion proposals.
- Now writing a paper.

07. 2014 – Present

Tsinghua University, Department of Electronic Engineering

Beijing, China

3-D Image Simulation Laboratory

Research Assistant to **Prof. Huimin Ma**, Deputy Secretary-General of China Graphics Society

Project 1: Researches of eye-tracking devices and its applications in computer vision

- Theoretically quantized the human perception over scene content
- Extracted Detection Complexity, which predicts the performance of algorithms in advance
- Predicted object detection failures in *ILSVRC* with a precision of **0.94**
- Contributed to **a first-authored paper**, which has been submitted to **2017 IEEE Conference on Computer Vision and Pattern Recognition**

03. 2016 – 11. 2016

On-going: Mathematically models of psychological problems based on interactive devices

- Designed mental experiments for patients suffering from autism, mania and depression
- Extracted eye-tracking features, gene information and electroencephalogram for data mining
- Now attempting to mathematically model psychological diseases

11. 2016 – Present

Tsinghua University, Department of Electronic Engineering

Beijing, China

Intellectual Graphs and Texts Processing Laboratory

Research Assistant to **Prof. Shengjin Wang**

Project: Text recognition in natural context based on convolutional neural networks

- Aims at optimizing the end-to-end text recognition with convolutional neural networks
- Built up a dataset consist of **3500+ categories** of Chinese characters
- Trained a **multi-pathway network** for Chinese character and sentences consist of **3500+** categories
- Achieved a precision of **86.8%**
- Now writing a paper

11. 2016 – 06. 2017

Stanford University, Department of Electronic Engineering

Palo Alto, CA

Participants in a remote project of [Prof. Tsachy Weissman](#)

Remote project: Information theory methods for Magnetic Resonance Imaging

- Explored novel methods for medical image registration
- Connected the registration problem to recent advances in information theory and statistical signal processing
- Applied and optimized methods in information theory to medical image registration
- Completed a research demo and report (ranked $4^{th}/146$)

12. 2015 – 02. 2016

Tsinghua University, Department of Electronic Engineering

Beijing, China

Project of Computer Graphics

Course Project: Three-dimensional vector text construction and texture mapping

- Applied text segmentation in natural scenes with complex context information
- Used high-dimensional Bézier curves or B-splines to fit text in natural scenes
- Constructed and texture mapped three-dimensional models of the text based on two-dimensional graphs
- Ranked $1^{st}/40$

04. 2016 – 06. 2016

Chinese Academy of Sciences, Institute of Computing Technology

Beijing, China

Research Assistant to [Prof. Yongdong Zhang](#)

Project: Searching by images

- Searched by local-sensitive hashing
- Extracted pixel-level features from over *100,000 images*
- Tested the demo on PASCAL VOC contained 100,000 images and attained an accuracy of *0.9*

08. 2015 – 10. 2015

SELECTED HONORS

Scholarship and Fellowship

- Tsinghua Scholarship (For outstanding academic, scientific and social achievement)
- Tsinghua Scholarship (For outstanding social achievement)

2015

2016

ADDITIONAL INFORMATION

Interests

- Computer vision
- Computer graphics
- Cognitive science
- Robotics
- Machine learning

Computer and Language Skills

- Languages:
MatLab (*20k+ lines*), C/C++ (*10k+ lines*), Python, C#, Verilog, MIPS Assembly Language, LaTeX, HTML, Linux
- Tools:
Caffe, Tensorflow, Pytorch
- English Skills:
TOEFL: *108* = 28(Reading) + 27(Listening) + *26(Speaking)* + 27(Writing)
GRE: *321* = *154(Verbal)* + 167(Quantitative) + 3.5(Analytical Writing)

EXTRACURRICULUM ACTIVITIES

EE Student Union

[Chairman](#) in charge of *External Communication Department of Student Union @ THU*

- Lead a team who raised nearly *USD 20,000* for financial sponsorship

Development for Live Broadcasting of 2017 Anniversary Party in EE department

[Team leader](#)

- Built up a website within 3 weeks for live broadcasting with millions of audience, which none of previous staff have ever achieved
- Successfully live broadcasting the anniversary party lasting for *5 hours with over 5000 clicks*

Global leadership competition 2015

[Team captain](#)

- Outstanding team captain

- Won the business design competition held at Intel, Silicon Valley, *the 1st place*