

# Yu-Chuan Su

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## RESEARCH INTERESTS

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- Computer Vision — semantic understanding, mobile vision, 360°/omni-directional/VR vision, object detection, video analysis, event recognition, active vision, video summarization
- Machine Learning — deep learning, multi-modality learning, scalable learning algorithm, convolutional neural network on graph, spectral domain neural network
- Data Mining — user intention understanding, event discovery

## EDUCATION

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### **The University of Texas at Austin**

August 2014 - Present

*Ph.D. in Computer Science*

- Advisor: Prof. Kristen Grauman
- Thesis: Learning for 360° Video Compression, Recognition, and Display
- GPA: 3.92 (0~4 scale)

### **National Taiwan University**

September 2012 - June 2014

*M.S. in Computer Science*

- Advisor: Prof. Winston H. Hsu
- Thesis: Large Scale Mobile Visual Recognition
- GPA: 4.27 (0~4.3 scale)

### **National Taiwan University**

September 2006 - June 2011

*B.S. in Computer Science and Physics*

- GPA: 91.11 (0~100 scale)

## AWARDS AND FELLOWSHIPS

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- **Google PhD Fellowship 2017**
- **Best Application Paper Award, ACCV 2016**
- **Best Thesis Award, Chinese Image Processing and Pattern Recognition Society 2015**
- **Calhoun Graduate Excellence Fellowship**
- **KDD Cup 2013**
  - Author-Paper Identification Challenge (Track 1) – **1st place** (in 561 teams)
  - Author Disambiguation Challenge (Track 2) – **1st place** (in 241 teams)
- **College Student Research Training Fellowship**
  - Fellowship for B.S. research from National Science Council, Taiwan
- **Academic Achievement Award, National Taiwan University**
  - President's Award 4 times (top 5% academic performance in semester)
  - Dean's Award (top 10% academic performance at graduation)

## SELECTED PUBLICATIONS

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- [Yu-Chuan Su](#), Kristen Grauman  
**Kernel Transformer Networks for Compact Spherical Convolution**  
Conference on Computer Vision and Pattern Recognition (CVPR) 2019
- [Yu-Chuan Su](#), Kristen Grauman  
**Learning Compressible 360° Video Isomers**  
Conference on Computer Vision and Pattern Recognition (CVPR) 2018
- [Yu-Chuan Su](#), Kristen Grauman  
**Learning Spherical Convolution for Fast Features from 360° Imagery**  
Advances in Neural Information Processing Systems (NIPS) 2017
- [Yu-Chuan Su](#), Kristen Grauman  
**Making 360° Video Watchable in 2D: Learning Videography for Click Free Viewing**  
Conference on Computer Vision and Pattern Recognition (CVPR) 2017 (Spotlight)
- [Yu-Chuan Su](#), Dinesh Jayaraman, Kristen Grauman  
**Pano2Vid: Automatic Cinematography for Watching 360° Videos**  
Asian Conference on Computer Vision (ACCV) 2016 (Oral, Best Application Award)
- [Yu-Chuan Su](#), Kristen Grauman  
**Detecting Engagement in Egocentric Video**  
European Conference on Computer Vision (ECCV) 2016 (Oral)
- [Yu-Chuan Su](#), Kristen Grauman  
**Leaving Some Stones Unturned: Dynamic Feature Prioritization for Activity Detection in Streaming Video**  
European Conference on Computer Vision (ECCV) 2016
- [Yu-Chuan Su](#), Tzu-Hsuan Chiu, Yin-Hsi Kuo, Chun-Yen Yeh, Winston H. Hsu  
**Scalable Mobile Visual Classification by Kernel Preserving Projection over High-Dimensional Features**  
IEEE Transactions on Multimedia 2014
- [Yu-Chuan Su](#), Tzu-Hsuan Chiu, Yan-Ying Chen, Chun-Yen Yeh, Winston H. Hsu  
**Enabling Low Bitrate Mobile Visual Recognition – A Performance versus Bandwidth Evaluation**  
ACM Multimedia 2013 (Oral)
- [Yu-Chuan Su](#), Tzu-Hsuan Chiu, Guan-Long Wu, Chun-Yen Yeh, Felix Wu, Winston H. Hsu  
**Flickr-tag Prediction using Multi-modal Fusion and Meta Information**  
ACM Multimedia 2013 (Grand Challenge)
- Chen-Wei Tsai, [Yu-Chuan Su](#), Guan-De Li, Jeng-Da Chai  
**Assessment of Density Functionals with Correct Asymptotic Behavior**  
Physical Chemistry Chemical Physics 2013
- [Yu-Chuan Su](#), Guan-Long Wu, Tzu-Hsuan Chiu, Winston H. Hsu  
**Evaluating Gaussian Like Image Representation Over Local Features**  
International Conference on Multimedia and Expo (ICME) 2012
- Guan-Long Wu, [Yu-Chuan Su](#), Tzu-Hsuan Chiu, Winston H. Hsu  
**Scalable Mobile Video Question-Answering System with Locally Aggregated Descriptors and Random Projection**  
ACM Multimedia 2011 (Grand Challenge)

## RESEARCH EXPERIENCE

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### **With Prof. Kristen Grauman**

*Graduate Research Assistant*

August 2014 - Present

*Computer Science Department, UT Austin*

- Research in computer vision and machine learning
- Attention analysis in ego-centric video
- Feature triage in streaming activity detection
- Vision in 360° videos

### **With Prof. Winston H. Hsu**

*Masters Student*

July 2012 - June 2014

*Computer Science Department, NTU*

- Research in multimedia analysis and machine learning
- Mobile-friendly visual recognition
- Deep learning for video event detection using transfer learning

### **With Prof. Winston H. Hsu**

*Undergraduate Researcher*

July 2010 - August 2011

*Computer Science Department, NTU*

- Research in multimedia analysis and retrieval
- Video question answering and event detection on mobile devices
- Investigate the properties of gaussian like image representations

### **With Prof. Jeng-Da Chai**

*Undergraduate Researcher*

August 2009 - August 2011

*Physics Department, NTU*

- Research in Density Functional Theory and Time Dependent Density Functional Theory
- Develop new long-range corrected functionals using laplacian correction
- Study the properties of different long-range correction schemes
- Implement LB94 model potential on Q-Chem 4.0

## PROFESSIONAL ACTIVITIES

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### **Invited Talks**

- Learning for 360 Compression and Convolution, National Tsing Hua University, January 2018
- Graduate Seminar, National Taiwan University, December 2017
- 6th Workshop on Intelligent Cinematography and Editing, Lyon, April 2017
- Vision and Learning Meet-Up: Recent Advances and Experience Sharing from Overseas Taiwanese Scholars, Academia Sinica, January 2017

### **Organizing Committee**

- ECCV Workshop on 360 Perception and Interaction, 2018  
Webpage: <http://360pi.github.io/>

### **Journal Reviewer**

- Data Mining and Knowledge Discovery (DAMI)
- IEEE Transactions on Multimedia (TMM)
- IEEE Transactions on Visualization and Computer Graphics (TVCG)
- Computer Vision and Image Understanding (CVIU)
- IEEE Transactions on Graphics (TOG)
- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)

## **Program Committee / Reviewer**

- WACV 2017, UIST 2017, SIGGRAPH Asia 2017, WACV 2018, CVPR 2018, SIGGRAPH Asia 2018, EPIC 2018, NIPS 2018, ACCV 2018, CVPR 2019, ICML 2019, TVX 2019

## **WORK EXPERIENCE**

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### **Google**

*Software Engineer Intern*

May 2018 - August 2018

- Work on unsupervised video understanding

### **Yahoo!**

*Technical Intern*

July 2013 - August 2013

- Work on Yahoo! knowledge graph project with Yahoo! search team