

# YUWEN XIONG

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## EDUCATION

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**Zhejiang University**, Hangzhou, P.R.China Sept. 2013 - June 2018  
B.Eng. in Computer Science and Technology,  
Pursuit Science Class, Chu Kochen Honors College  
Overall GPA: 3.75/4.0, Major GPA 3.97/4.0, Rank top 5%  
Received waiver for the National College Entrance Exam to enter Zhejiang University from 1<sup>st</sup> Prize in National Olympiad in Informatics in Provinces (top 1.8% over 60,000 participants).  
**National University of Singapore**, Visiting Student with Full Scholarship July 2015 - Aug. 2015

## PUBLICATIONS

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Jifeng Dai\*, Haozhi Qi\*, **Yuwen Xiong\***, Yi Li\*, Guodong Zhang\*, Han Hu, Yichen Wei. *Deformable Convolutional Networks*. IEEE International Conference on Computer Vision (**ICCV**), 2017 (**Oral**). ([pdf](#)) (\* equal contribution)

Xizhou Zhu, **Yuwen Xiong**, Jifeng Dai, Lu Yuan, Yichen Wei. *Deep Feature Flow for Video Recognition*. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017. ([pdf](#))

Haochao Ying, Liang Chen, **Yuwen Xiong**, Jian Wu. PGRank: Personalized Geographical Ranking for Point-of-Interest Recommendation. International World Wide Web Conference (**WWW**), 2016. ([pdf](#))

Haochao Ying, Liang Chen, **Yuwen Xiong**, Jian Wu. Collaborative Deep Ranking: a Hybrid Pair-wise Algorithm with Implicit Feedback. Pacific Asia Knowledge Discovery and Data Mining (**PAKDD**), 2016. ([pdf](#))

## RESEARCH EXPERIENCE

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**University of Toronto** July 2017 - Present  
Research Assistant, Advisor: Prof. Raquel Urtasun *Toronto, Canada*

**Microsoft Research Asia** July 2016 - June 2017  
Research Intern, Advisor: Lead Researcher, Dr. Jifeng Dai *Beijing, China*

· Deformable Convolutional Networks

- Worked on enhancing the transformation modeling capability for convolution layer and its relevant part.
- Write code to exploit data-driven receptive field learning, by augmenting the spatial sampling locations for convolution.
- Conducted experiments on Pascal VOC, Cityscapes and COCO dataset for variant task. Our approach made huge performance gain on all the tasks.
- This work accepted at ICCV 2017 as oral
- Maintaining an [official repository](#) on GitHub (over 1000 stars by now).

- Deep Feature Flow for Video Recognition
  - Worked on optical flow and object detection from video with deep convolutional neural network;
  - Proposed an end-to-end flow-guided feature warping framework to apply flow field to video recognition that inference speed could be at most one order of magnitude faster than previous approaches with little accuracy drop
  - Conducted experiments on ImageNet VID dataset;
  - This work accepted at CVPR 2017

### Zhejiang University Advanced Computing and System Lab

Sept. 2015 - July 2016

Research Assistant, Advisor: Prof. Jian Wu

Hangzhou, China

- Explored how to apply deep learning on recommendation system;
- Proposed a recommendation algorithm with Stacked Denoising Autoencoder, using Stacked Denoising Autoencoders output as item feature in user-item matrix factorization;
- Combined it with a ranking-based method to make recommendations on very sparse matrices;
- Wrote experiments code and did all experiments with a Ph.D. candidate;
- One paper accepted at PAKDD 2016 and one poster accepted by WWW 2016.

## PROJECTS

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### py-R-FCN

Sept. 2016

- A Python version of R-FCN supporting joint training;
- A reimplement of the [NIPS 2016](#) paper based on py-faster-rcnn;
- Supports both joint training (1.5x faster than 4 step method) and a new 5-step training method;
- Source code on GitHub: <https://github.com/YuwenXiong/py-R-FCN> (over 550 stars by now).
- Kaggle The Nature Conservancy Fisheries Monitoring Competition, 1st Place Winner's choice: [Winner's interview](#).

### Image Retrieval Engine

Dec. 2015 - Jan. 2016

- An image retrieval engine based on Deep Convolutional Neural Network and AutoEncoder;
- Used VGG16 fc7 feature to compute similarity and retrieve similar images, trained an AutoEncoder to reduce the feature dimensions from 4096 to 64 to increase speed;
- Works well even when images are cropped in half in some situations.

## HONORS & AWARDS

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1 <sup>st</sup> Prize of Excellent Undergraduate Scholarship (Top 3% in Department)	2016
Top Student of Basic Science Scholarship (25/215)	2014, 2015, 2016
Best Demo (6/20000, On-site), Microsoft Beauty of Programming	2016
2 <sup>nd</sup> Prize of Excellent Undergraduate Scholarship (Top 6% in Department)	2015
Top 1000 over 25000 worldwide participants, Google Code Jam	2014, 2015

## SKILLS

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<b>Programming Languages</b>	Python, C, C++, CUDA, Matlab, Java, Swift
<b>Frameworks &amp; Tools</b>	PyTorch, Caffe, MXNet, L <sup>A</sup> T <sub>E</sub> X, Vim, Git
<b>Language</b>	Chinese (Native), English (Professional working proficiency)