

Bin Jin

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Research Interests

- Computer Vision: image segmentation and image saliency
- Image Processing: image aesthetics and image enhancement
- Deep Learning for Vision

Education **École Polytechnique Fédérale de Lausanne**, Lausanne, Switzerland
Ph.D. student in Computer Science September 2012 – present

Shanghai JiaoTong University, Shanghai, China
BSc. in Communication System September 2008 – June 2012

Selected Projects Research assistant in **Image and Visual Representation Lab**, EPFL
Advisor: **Sabine Süsstrunk** September 2012 – present

- **Image semantic segmentation:** Propose and implement an image segmentation algorithm to automatically train *convolutional neural networks* for segmenting objects, without human annotations. The algorithm is implemented using *Theano* framework in *Python*.
- **Image aesthetics prediction:** Analyze the image characters that affect image aesthetics. Implement a *deep learning* algorithm to predict the image aesthetics, using *Python* and *Theano*. Further propose an image cropping application based on image aesthetics.
- **Face saliency:** Design a website for labeling images using *Javascript* and *PHP*. Conduct crowd-sourcing experiments with the designed website to build a face saliency dataset. Analyze users' annotations, propose and implement a new face saliency algorithm in *MATLAB* and *C++*.
- **Interactive image segmentation tool:** Collaborate with a student to implement an interactive image segmentation tool in *QT*. Investigate and implement several interactive image editing functionality into the tool.

Research assistant in **Video & Image Processing Lab**, Shanghai Jiaotong University
Advisor: **Weiyao Lin** September 2010 – July 2011

- **Images re-ranking:** Implement an algorithm in *Matlab* to re-rank image retrieval results according to the layout expectation model.
- **Images visualization:** Implement an image visualization tool to show a group of images in 3D tree structure. Implement the functionality for viewing the saliency parts, changing view angles and zoom in/out.

Selected Publications **B. Jin**, M. Ortiz Segovia, S. Süsstrunk, "Image aesthetic predictors based on weighted CNNs", *IEEE International Conference on Image Processing*, 2016.

B. Jin, G. Yildirim, C. Lau, A. Shaji, M. Ortiz Segovia, S. Süsstrunk, "Are Faces Equally Important?", *IS&T/SID Human Vision and Electronic Imaging Conference*, 2015.

B. Jin, W. Lin, J. Wu, T. Wu, "Layout-expectation-based Model For Image Search Re-ranking", *IEEE International Conference on Multimedia and Expo Workshops*, 2012.

J. Hu, **B. Jin**, W. Lin, J. Huang, "Saliency-based Visualization for Image Search", *IEEE International Workshop on Multimedia Signal Processing*, 2011.

J. Xie, W. Lin, H. Li, K. Guo, **B. Jin**, “A New Algorithm for Improving Deblurring Effects and Addressing Spatially-variant Blur Problems for Image Motion Deblurring”, *The 4th International Congress on Image and Signal Processing, 2011*.

Professional Experience	Professional Visit, Océ , Paris	July 2016
	Professional Visit, Océ , Paris	August 2015
	Internship, Océ , Paris	September – December 2014
	International Computer Vision Summer School, Sicily	July 2014
	Teaching Assistant, Mathematical foundations of signal processing	Fall, 2016
	Teaching Assistant, Computational photography	Spring, 2016
	Teaching Assistant, Introduction to computer vision	Fall, 2015
	Teaching Assistant, Digital photography	Spring, 2014
	Teaching Assistant, Foundations of imaging science	Fall, 2013
	Reviewer, Computer Vision and Image Understanding	2016
	Reviewer, International Conference on Computer Vision	2015
	Reviewer, International Journal of Pattern Recognition and Artificial Intelligence	2014
	Reviewer, Journal of Computer Science and Technology	2014

Honours and Awards	EPFL IC Teaching Assistant Award (2016)
	HVEI Best Paper Runner-up Award (2015)
	EPFL EDIC fellowship (2012)
	2nd Prize for Academic Excellence by Shanghai Jiao Tong University, twice (2009, 2010).
	The Jidian Electron Scholarship, twice (2009, 2010).

Skills	Programming: Python, Matlab, C/C++, Html, PHP, Javascript, VHDL
	Software: Matlab, Xcode, Visual Studio, L ^A T _E X and Microsoft Office.
	Operating Systems: Mac OS X, Windows, Linux.
	Language: English (fluent, 100/120 in <i>TOEFL</i> test, 2011), Chinese (mother tongue).