

Panqu Wang

CURRICULUM VITAE

**CONTACT
INFORMATION**

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WEBSITE

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**RESEARCH
INTEREST**

My research interests are in Computer Vision, Machine Learning, and Cognitive Modeling. In particular, I am interested in building neurocomputational models for face and object recognition in human visual cortex using brain-inspired algorithms.

EDUCATION

UNIVERSITY OF CALIFORNIA, SAN DIEGO 2011 - Present
Ph.D. student, Department of Electrical and Computer Engineering

FUDAN UNIVERSITY, Shanghai, China 2007 - 2011
Bachelor of Science, Department of Electrical Engineering

UNIVERSITY OF CALIFORNIA, SAN DIEGO 2010 - 2011
Exchange Student, Department of Electrical and Computer Engineering

PUBLICATIONS

Wang, P. and Cottrell, G. W. Central and Peripheral Vision for Scene Recognition: A Neurocomputational Modeling Exploration. *(In Review)*

Wang, P. and Cottrell, G. W. Modeling the Contribution of Central Versus Peripheral Vision in Scene, Object, and Face Recognition. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society. Austin, TX: Cognitive Science Society.* arXiv:1604.07457. 2016.

Wang, P., Gauthier, I., and Cottrell, G. W. Are Face and Object Recognition Independent? A Neurocomputational Modeling Exploration. *Journal of Cognitive Neuroscience, 28 (4):558-574.* 2016.

Wang, P. and Cottrell, G. W. Basic Level Categorization Facilitates Visual Object Recognition. *4th International Conference on Learning Representations (ICLR 2016) Workshop,* arXiv:1511.04103. 2016.

Wang, P., Malave, V., and Cipollini, B. Encoding Voxels With Deep Learning. *The Journal of Neuroscience, 35 (48):15769-15711.* 2015.

Wang, P., Cottrell, G. W., and Kanan, C. Modeling the Object Recognition Pathway: A Deep Hierarchical Model Using Gnostic Fields. In *Proceedings of the 37th Annual Conference of the Cognitive Science Society. Austin, TX: Cognitive Science Society.* 2015. **(Oral Presentation)**

Wang, P., Gauthier, I., and Cottrell, G. W. Experience Matters: Modeling the Relationship Between Face and Object Recognition. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society. Austin, TX: Cognitive Science Society.* 2014. **(Oral Presentation)**

Wang, P. and Cottrell, G. W. A Computational Model of the Development of Hemispheric Asymmetry of Face Processing. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society. Austin, TX: Cognitive Science Society.* 2013.

Wang, P. and Zhang, Y. Suspicious Object Recognition Method in Video Stream Based on Visual Attention. *Leading Journal of Scientific Innovation of Fudan, 1, 1-13,* 2012. arXiv:1308.5063.

ABSTRACTS AND POSTERS

Wang, P., Cottrell, G. W., and Kanan, C. Modeling the Object Recognition Pathway: A Deep Model *Vision Sciences Society Annual Meeting (VSS 2015)*, St. Pete Beach, FL, 2015.

Wang, P. and Cottrell, G. W. The Deep Model. *Vision Sciences Society Annual Meeting (VSS 2015)*, St. Pete Beach, FL, 2015.

Wang, P., Cippolini, B., Omigbodun, A., Gauthier, I., and Cottrell, G. W. Modeling the Moderation of Experience in Face and Object Recognition. *Vision Sciences Society Annual Meeting (VSS 2014)*, St. Pete Beach, FL, 2014.

Wang, P., Gauthier, I., and Cottrell, G. W. Modeling the Moderation of Experience in Face and Object Recognition. *TDLC All Hands Meeting 2014*, La Jolla, CA, 2014.

Wang, P. and Cottrell, G. W. A Neurocomputational Model for the Hemispheric Asymmetry Development of Face Processing. *20th Joint Symposium on Neural Computation (JSNC 2013)*, Pasadena, CA, 2013.

Wang, P. and Cottrell, G. W. Development Model of Face and Object Recognition Using Modular Neural Network. *Vision Sciences Society Annual Meeting (VSS 2013)*, Naples, FL, 2013.

TALKS

Wang, P. Central/Peripheral Vision and Scene Recognition: A Modeling Exploration. *32ND Meeting of the Perceptual Expertise Network*, Nashville, NC. 2016.

Wang, P. The [Deep] Model. *29th Meeting of the Perceptual Expertise Network*, Dallas, TX. 2014.

Wang, P. Exploring the Moderation of Experience in Face and Object Recognition. *UC San Diego AI Seminar*, La Jolla, CA. 2014.

Wang, P. Modeling the Moderation of Experience in Face and Object Recognition. *27th Meeting of the Perceptual Expertise Network*, Nashville, TN. 2013.

Wang, P. A Computational Model of Development of Hemisphere Asymmetry of Face Processing. *26th Meeting of the Perceptual Expertise Network*, Pittsburgh, PA. 2013.

AWARDS AND HONORS

| | |
|---|-------------|
| HP Labs Research Fellowship , Hewlett-Packard | 2014 - 2016 |
| TDLC Trainee Small Grant Award (USD 2500) , UC San Diego | 2014 |
| Machine Learning Summer School Scholarship , UC Santa Cruz | 2012 |
| Jacobs Fellowship , UC San Diego | 2011 - 2012 |
| Outstanding Graduates Award , Fudan University | 2011 |
| Challenging Scholar Award (CNY 4000) , Fudan University | 2011 |
| National People's Scholarship , Fudan University | 2007 - 2010 |

EXPERIENCES

Graduate Student Researcher 2012 - Present

Gary's Unbelievable Research Unit, UC San Diego, La Jolla, CA

- Building neurocomputational models to explain behavioral data and cognitive processes, especially for face and object recognition.
- Use brain-inspired algorithms to build better computer vision methods, especially in deep learning.

Research Intern 2016

TuSimple, LLC, San Diego, CA

- Semantic segmentation with deep learning.

Research Associate Intern 2014 - 2015

Hewlett-Packard Labs, Palo Alto, CA

- Designed state-of-the-art object recognition applications using deep learning on Cog platform.

Intern Technical PhD 2013
eBay Inc., San Jose, CA

- Designed Seller Marketing Engine (SME) offer classification system using ordinal logistic regression.

Staff Research Assistant 2010 - 2011
Statistical Visual Computing Lab, UC San Diego, La Jolla, CA

- Designed real-time automatic object detectors using discriminant saliency and Kalman filters.
- Implemented a family of fast object detectors on Android cellphone.

Research Assistant 2009 - 2011
Image & Intelligence Lab, Fudan University, Shanghai, China

- Multi-spectral remote sensing image registration using OSRM-SIFT algorithm.
- Intelligent video surveillance based on attention selection.

TEACHING **UCSD CSE 150: Artificial Intelligence** Spring 2016
UCSD CSE 190: Neural Networks Fall 2015

SERVICE **Trainee Fellows Committee, NSF Temporal Dynamics of Learning Center (TDLC)**,
 2013 - Present

REVIEWER Information Processing Letters Cognitive Science Society (CogSci)

PROGRAMMING SKILLS Python, Java, Scala, Matlab, C, VHDL, Assembly, VB, SQL