Panqu Wang

CURRICULUM VITAE

CONTACT INFORMATION

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EDUCATION

UNIVERSITY OF CALIFORNIA, SAN DIEGO *2011 - 2017*
Doctor of Philosophy, Department of Electrical and Computer Engineering
Thesis: Towards *The Deep Model* : Understanding Visual Recognition Through Computational Models

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

Gu, X., Wang, Y., Wu, C., Lee, Y. J., and **Wang, P.** HPLFlowNet: Hierarchical Permutohedral Lattice FlowNet for Scene Flow Estimation on Large-scale Point Clouds. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2019)* (pp. 3254-3263).

Wang, P., Chen, P., Yuan, Y., Liu, D., Huang, Z., Hou, X., and Cottrell, G. Understanding Convolution for Semantic Segmentation. *IEEE Winter Conference on Applications of Computer Vision (WACV 2018)*. arXiv:1702.08502. 2018.

Wang, P. and Cottrell, G. W. Central and Peripheral Vision for Scene Recognition: A Neurocomputational Modeling Exploration. *Journal of Vision, 17* (4):1-22. 2017.

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 2016), St. Pete Beach, FL, 2016.

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

Chinese Government Award for Outstanding Self-financed Students Abroad *2017*
HP Labs Research Fellowship, *Hewlett-Packard* *2014 - 2016*
TDLC Trainee Small Grant Award, *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, *Fudan University* *2011*
National People's Scholarship, *Fudan University* *2007 - 2010*

Experiences

Senior Research Scientist *2017 - Now*
TuSimple, San Diego, CA

- Lead the deep perception team to research and prototype deep learning related projects to solve perception tasks in autonomous driving.

Graduate Student Researcher *2012 - 2017*
Gary's Unbelievable Research Unit, UC San Diego, La Jolla, CA
- Building neurocomputational models to explain behavioral data and cognitive processes, especially in face, object, and scene 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 using 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 - 2016*

REVIEWER

Neural Networks	Cognitive Science Society (CogSci)
IEEE Transactions on Multimedia	ICML
Journal of Cognitive Neuroscience	NIPS
Journal of Vision	EuroVis
PLOS ONE	ICLS
Computer Methods and Programs in Biomedicine	Cognitive Processing
Electronics Letters	Information Processing Letters