

Hao He

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EDUCATION	Massachusetts Institute of Technology , Cambridge, MA	2017 - present
	Ph.D. in Computer Science	
	• Advisor: Prof. Dina Katabi GPA: 5.0/5.0	
	Peking University , China	2013 - 2017
	B.S. in Computer Science	
	• Major GPA: 3.93/4.00 (rank 1st)	
EXPERIENCE	Research Assistant, MIT	Sep 2017 to Present
	Advisor: Prof. Dina Katabi	
	Project: Domain Adaptation for Health Care Applications	
	• Develop a novel algorithm for unsupervised domain adaptation in health care applications such as sleep monitoring, disease detection.	
	Project: Deep Learning for Distributed Circuit Design	
	• Develop a graph neural network that can optimize high-frequency (THz) circuits.	
	Project: Learning-Augmented Wireless Sensing for Health Care and Smart Home	
	• Develop a WiFi-based fall detection system using 3D convolution networks.	
	• Develop the first WiFi-based breathing monitoring system that extracts breathing signals from multiple people in one bed and is robust to human motions.	
	Research Intern, Microsoft Research	Sep 2016 to Aug 2017
PUBLICATION	Mentor: David Wipf	
	Project: Neural Sparse Bayesian Learning Algorithm	
	• Propose a novel DL model that solves sparse matrix inverse problem efficiently.	
	• Develop a theory that map the classic Sparse Bayesian Learning algorithm to standard recurrent neural network cell.	
	Mentor: Stephen Lin	
	Project: White Box Photo Post-Processing Framework	
	• Develop a framework that automatically learns the photo processing patterns for any given photo retouching style.	
	Research Intern, Stanford University	June 2016 to Sep 2016
	Advisor: Leonidas J. Guibas	
	Project: 3D Shape Reconstruction from a Single Image	
	• Develop a generative model that generates 3D point clouds conditioned on a 2D image.	
	Circuit-GNN: Graph Neural Networks for Distributed Circuit Design	
	Hao He*, Guo Zhang*, Dina Katabi	
	International Conference on Machine Learning (ICML), 2019	
	ProbGAN: Towards Probabilistic GAN with Theoretical Guarantees	
	Hao He, Hao Wang, Guang-He Lee, Yonglong Tian	
	International Conference on Learning Representations (ICLR), 2019	
	Hierarchical Bidirectional Inference Networks for Health Profiling	
	Hao Wang, Chengzhi Mao, Hao He, Dina Katabi, Tommi Jaakkola	
	The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI), 2019	
	From Bayesian Sparsity to Gated Recurrent Nets	
	Hao He, Bo Xin, Satoshi Ikehata, David Wipf	
	Conference on Neural Information Processing Systems (NeurIPS), 2017 (<i>Oral</i>)	
	RF-Based Fall Monitoring Using Convolutional Neural Networks	
	Hao He*, Yonglong Tian*, Guang-he Lee*, Dina Katabi, Chen-yu Hsu	
	ACM International Joint Conference on Pervasive and Ubiquitous Computing, 2018	

Extracting Multi-Person Respiration from Entangled RF Signals

Shichao Yue, **Hao He**, Dina Katabi

ACM International Joint Conference on Pervasive and Ubiquitous Computing, 2018

Exposure: A White-Box Photo Post-Processing Framework

Yuanming Hu, **Hao He**, Chenxi Xu, Baoyuan Wang, Stephen Lin

ACM Transactions on Graphics (TOG), 2018

SERVICES

Reviewer: NeurIPS 19, ICML 19

Program Committee: AAAI 20, UAI 19

COURSES

System: Computer Network (6.892) (A+)

AI: Algorithm for Inference (6.438) (A), Information and Inference (6.437) (A), Fundamentals of Probability(6.436) (A), Bayesian Modelling and Inference (6.882) (A)

Theory: Learning-Augmented Algorithms (6.890) (A)

AWARDS

- National Scholarship for Excellent Academic Performance, China (highest, twice)
- Arawana Scholarship for Excellent Academic Performance, Peking University
- ACM-ICPC 2015 Asia Regional Shenyang Site, Gold Medal
- ACM-ICPC 2014 Asia Regional Anshan Site, Gold Medal