

# Taehoon Kim

<https://carpedm20.github.io/>

EDUCATION	<b>Ulsan National Institute of Science and Technology (UNIST)</b> • B.S. in Computer Science and Engineering • Graduated with Outstanding Graduate Award (ranked 1 <sup>st</sup> out of 509 undergraduates)	Mar 2011 – Aug 2015
PUBLICATIONS	[7] H. Noh, <u>T. Kim</u> , J. Mun, B. Han, Transfer Learning via Unsupervised Task Discovery for Visual Question Answering, In <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i> 2019 [6] K. Cobbe, O. Klimov, C. Hesse, <u>T. Kim</u> , J. Schulman, Quantifying Generalization in Reinforcement Learning, arXiv, 2018 [5] Y. Lee, <u>T. Kim</u> , J. Lim, Teaching Machines to Understand Visual Manuals via Attention Supervision for Object Assembly, 2018 [4] <u>T. Kim</u> , J. Choi, D. Lee, A. Sim, C. A. Spurlock, A. Todd, K. Wu, Predicting Baseline for Analysis of Electricity Pricing, In <i>International Journal of Big Data Intelligence (IJBDI)</i> , 2016 [3] J. Lee, K. Lee, C. Han, <u>T. Kim</u> , S. Chong, Resource-efficient Mobile Multimedia Streaming with Adaptive Network Selection, In <i>IEEE Transactions on Multimedia</i> , 2016 [2] <u>T. Kim</u> , J. Choi, Reading documents for bayesian Online Change Point Detection, In <i>Empirical Methods in Natural Language Processing (EMNLP)</i> , 2015 [1] <u>T. Kim</u> , D. Lee, J. Choi, A. Spurlock, A. Sim, A. Todd, K. Wu, Extracting Baseline Electricity Usage Using Gradient Tree Boosting, In <i>International Conference on Big Data Intelligence and Computing (DataCom)</i> , 2015, <b>Best Paper Award</b>	
RESEARCH EXPERIENCE	<b>OpenAI</b> , San Francisco, USA <i>Research Engineer (Advisor: John Schulman)</i> <b>University of Southern California</b> , Los Angeles, USA <i>Visiting Researcher (Advisor: Prof. Joseph J. Lim)</i> <b>Seoul National University</b> , Seoul, South Korea <i>Visiting Researcher (Advisor: Prof. Bohyung Han)</i> <b>Lawrence Berkeley National Laboratory</b> , Berkeley, USA <i>Research Intern (Advisors: John Wu, Alex Sim)</i> <b>Statistical Artificial Intelligence Lab</b> , UNIST, South Korea <i>Research Intern (Advisor: Prof. Jaesik Choi)</i> <b>Mobile Smart Networking Laboratory</b> , UNIST, South Korea <i>Research Intern (Advisor: Prof. Kyunghan Lee)</i>	Sep 2018 – Present Jan 2017 – Sep 2018 Apr 2018 – Jul 2018 Jul 2015 – Aug 2015 Sep 2014 – Sep 2015 Jan 2013 – Aug 2014
INDUSTRY EXPERIENCE	<b>Devsisters</b> , Seoul, South Korea <i>Research Engineer</i> <b>Vingle</b> , Seoul, South Korea <i>Software Engineer</i> <b>Moloco</b> , Palo Alto, USA <i>Software Engineering Intern</i> <b>NAVER Labs</b> , Seoul, South Korea <i>Software Engineering Intern</i>	Apr 2016 – Aug 2018 Oct 2015 – Apr 2016 Oct 2014 – Jan 2015 Jul 2014 – Aug 2014

HONORS & AWARDS	Best Paper Award, International Conference on Big Data Intelligence and Computing (DataCom) 2015	
	AI Grant Fellowship (\$2,500 cash + \$20,000 credit as award), 2018	
	Outstanding Graduate Award, UNIST, 2015	
	Dean’s List, UNIST, 2013, 2014	
	Finalist, International Student Cluster Challenge, International Conference on Supercomputing (ICS), 2014	
	Finalist, Asia student Supercomputing Challenge (ASC), 2014	
	Finalist, Korea Whitehat Hacking Competition, 2014	
	3 <sup>rd</sup> place (\$ 8,000 as awards), Korea Whitehat Hacking Competition, 2013	
	1 <sup>st</sup> place (\$ 1,000 as awards), The Catholic University of Korea Hacking Competition, 2013	
	Finalist, Asia student Supercomputing Challenge (ASC), 2013	
TALKS	DEVVIEW 2016 & 2017, Seoul, South Korea	2016, 2017
	<ul style="list-style-type: none"><li>• Multi-Speaker Speech Synthesis with Attention-Based Deep Learning.</li><li>• How to build a Framework for Automatic Game Balancing with Deep Reinforcement Learning.</li></ul>	
	NAVER Clova AI 2017 & 2018, Seoul, South Korea	2017
	<ul style="list-style-type: none"><li>• Recent Advancement of Deep Reinforcement Learning from Multi-Agent to Meta-Learning.</li></ul>	
	PyCon APAC 2016, Seoul, South Korea	2016
	<ul style="list-style-type: none"><li>• Deep Convolutional GAN, Neural Turing Machine, Deep Q-learning and Visual Analogy.</li></ul>	
	TensorFlow Korea, Seoul, South Korea	2016
	<ul style="list-style-type: none"><li>• End-to-End Memory Network and Asynchronous Advantageous Actor-Critic method.</li></ul>	
PROJECTS		
GENERATIVE	Deep Convolutional GAN (★ 5.5k+*)	Jan 2016
	Implemented Deep Convolutional Generative Adversarial Networks (Radford et, al. 2015) and web demo with convnet.js	
	The code is referenced in more than 25 papers including:	
	<ul style="list-style-type: none"><li>• Improved Techniques for Training GANs (Salimans et, al. 2016) from OpenAI</li><li>• Least Squares Generative Adversarial Networks (Mao et, al. 2016)</li><li>• Semi-supervised learning with generative adversarial networks (Odena et, al 2016)</li></ul>	
	Boundary Equilibrium GAN (★ 800+)	Apr 2017
	Implemented BEGAN: Boundary Equilibrium Generative Adversarial Networks (Berthelot et, al. 2017)	
	The code is used in the following papers:	
	<ul style="list-style-type: none"><li>• GANs Trained by a Two Time-Scale Update Rule Converge to a Nash Equilibrium (Heusel et, al 2017)</li><li>• MAGAN: Margin Adaptation for Generative Adversarial Networks (Wang et, al. 2017)</li></ul>	
	Multi-Speaker Speech Synthesis (★ 300+)	Oct 2017
	Implemented Deep Voice 2: Multi-Speaker Neural Text-to-Speech (Berthelot et, al. 2017)	
	Discovering Cross-Domain GAN (★ 800+)	Mar 2017
	Implemented Learning to Discover Cross-Domain Relations with Generative Adversarial Networks (Kim et, al. 2017)	
	Simulated+Unsupervised Learning GAN (★ 500+)	Jan 2017
	Implemented Learning from Simulated and Unsupervised Images through Adversarial Training (Shrivastava et, al. 2016)	
	Pixel Recurrent Neural Networks (★ 400+)	Jul 2016
	Implemented Pixel Recurrent Neural Networks (Oord et, al. 2016)	
	Deep Visual Analogy-Making (★ 200+)	Feb 2016
	Implemented Deep Visual Analogy-Making (Reed et, al. 2015)	
	Reinforcement Learning Program Synthesis	Dec 2017
PROGRAM INDUCTION	Implemented Leveraging Grammar and Reinforcement Learning for Neural Program Synthesis (Under review, 2017)	
	Pointer Network (★ 300+)	Jan 2017
	Implemented Pointer Networks (Vinyals et, al. 2015)	
	Neural Turing Machine (★ 900+)	Dec 2015
	Implemented Neural Turing Machine (Graves et, al. 2014)	

<sup>\*</sup>The number of stars a repository has on [github.com/carpedm20](https://github.com/carpedm20)

RL	<b>Synthesizing Programs for Images using Reinforced Adversarial Learning</b> Implemented Synthesizing Programs for Images using Reinforced Adversarial Learning (Ganin et, al. 2018)	Apr 2018
	<b>Efficient Neural Architecture Search via Parameters Sharing (★ 1.6k+)</b> Implemented Efficient Neural Architecture Search via Parameters Sharing (Pham et, al. 2018)	Feb 2018
	<b>Normalized Advantage Functions (★ 100+)</b> Implemented Continuous Deep Q-Learning with Model-based Acceleration Learning (Gu et, al. 2016)	Jul 2016
	<b>Dueling Double Q-Learning (★ 1.4k+)</b> Implemented Dueling Network Architectures for Deep Reinforcement Learning (Wang et, al. 2015)	Jul 2016
	<b>Deep Q-Network (★ 1.9k+)</b> Implemented Human-Level Control through Deep Reinforcement Learning (Vinyals et, al. 2015)	Jun 2016
	<b>Asynchronous Advantageous Actor-Critic</b> Implemented Asynchronous Methods for Deep Reinforcement Learning (Mnih et, al. 2016)	Jun 2016
NLP	<b>Neural Variational Inference for Text Processing (★ 500+)</b> Implemented Neural Variational Inference for Text Processing (Miao et, al. 2015) The code is used in the following papers: <ul style="list-style-type: none"> <li>• Autoencoding Variational Inference For Topic Models (Srivastava et, al. 2017)</li> <li>• Neural Variational Inference For Topic Models (Srivastava et, al. 2016)</li> </ul>	May 2016
	<b>Character-Aware Neural Language Models (★ 700+)</b> Implemented Character-Aware Neural Language Models (Kim et, al. 2016)	Feb 2016
	<b>End-To-End Memory Networks (★ 700+)</b> Implemented End-To-End Memory Networks (Sukhbaatar et, al. 2015)	Dec 2015

## REFERENCES

### Joseph J. Lim

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### John Wu

*Group Leader*

Scientific Data Management Group  
Lawrence Berkeley National Laboratory  
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### Alex Sim

*Senior Computing Engineer*

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### Jaesik Choi

*Associate Professor*

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