Chan Y. Park

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Experience

Fellow, Insight Artificial Intelligence Program   New York, NY, *July 2017 - Present*
- Developed img2txt, an end-to-end deep learning model based on Google's Show and Tell to translate an image into a sentence, github.com/chan-y-park/img2txt.
- Trained img2txt using PASCAL, Flickr, and MS COCO datasets.
- Implemented various sub-networks of img2txt in TensorFlow, including convolutional neural networks (VGG, Inception), recurrent neural networks (LSTM, GRU), word embedding, and differentiable neural computer.
- Built an interactive web user interface with Apache, Flask, and Bokeh to run inference of img2txt using uploaded images and to provide a t-SNE visualization of the word embedding learned by img2txt using scikit-learn.

Postdoctoral Associate, Rutgers University   Piscataway, NJ, *September 2014 - August 2017*
- Performed numerical and analytic studies of supersymmetric gauge theories using Python, SciPy stack, SageMath, and Mathematica.
- Developed a full stack web application to study Seiberg-Witten theory, presented at 2016 Scientific Python conference, chan-y-park.github.io/blog/scipy_2016_talk.html.

Research Staff, Park Systems   Korea, *October 2004 - December 2005*
- Built an embedded operating system for an atomic force microscope (AFM) electronic controllers based on Motorola Sandpoint reference platform, including customizing the kernel and the device drivers of NetBSD.
- Developed a prototype force constant calibration module of AFM cantilevers by using National Instruments data acquisition hardware & Measurement Studio in collaboration with National Physical Laboratory, UK.

Research Staff, Softwise   Korea, *October 2003 - October 2004*
- Developed a web search engine query recommendation system for NATE.com, a top 3 web portal in Korea, using Visual C++ and MS-SQL on Windows Server.
- Created administrative user interface of Yahoo! Korea DB search system using PHP and MySQL.

Education

Ph.D. in Physics, California Institute of Technology   Pasadena, CA, *October 2007 - June 2014*
- Studied theoretical physics, specifically supersymmetric gauge theories and string theory.
- Invited to present academic talks at various conferences and seminars.
- Thesis – Branes and Supersymmetric Quantum Field Theories

B.S. in Physics, Seoul National University   Korea, *March 2001 - August 2007*
- Minor in Mathematics, summa cum laude and ranked 1st in the Department of Physics.

Deep Learning Projects

visnet	Visualization of convolutional neural networks	chan-y-park.github.io/blog/visualizing_convnet.html
rl-atari	Reinforcement learning with Atari games using OpenAI Gym	chan-y-park.github.io/blog/rl_atari.html
dcgan	Deep convolutional generative adversarial network	github.com/chan-y-park/dcgan

Skills

Operating Systems	• Linux/Unix kernel & device driver programming • Linux web/DB server administration & application development • Windows server service application development • Multithreading & multiprocessing programming
Programming Languages	• Python, C (proficient) JavaScript, PHP, C++ (familiar)
Databases	• MySQL, MS-SQL (familiar)
Package softwares	• National Instruments Labview & Measurement Studio, Mathematica, SageMath