Taehoon Kim

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EDUCATION

Ulsan National Institute of Science and Technology, Ulsan, South Korea
B.S. in Computer Science & Engineering, Electrical Engineering — Mar 2011 – Aug 2015

AWARDS

Best Paper Award, **DataCom 2015** — Dec 2015
Best Paper Award for Extracting Baseline Electricity Usage Using Gradient Tree Boosting

Finalist, **Student Cluster Challenge** — Jun 2014
One of 11 international teams (including MIT, Tsinghua Univ) selected through the preliminary contest

3rd place, **Korea Whitehat Hacking Contest 2013** — Sep 2013
Awarded by the Minister of National Defense. Received an award of $8,000

1st place, **Holyshield Hacking Contest 2013** — Nov 2013
Awarded by the President of Catholic University of Korea. Received an award of $1,000.

Finalist, **Asia student Supercomputing Challenge 14** — Apr 2014
One of 16 teams among 82 international teams selected through the preliminary contest

Finalist, **Asia student Supercomputing Challenge 13** — Jan 2013
One of 10 teams among 43 international teams selected through the preliminary contest

Outstanding Graduate Award, **Ministry of Science, ICT and Future Planning** — Feb 2016
Chosen as one of all graduates, awarded by the Minister of Science, ICT and Future Planning

Outstanding Student Contribution Award 2014, UNIST — Dec 2014
Chosen as one team of all candidates from School of Electrical and Computer Engineering

Student Outstanding Contribution Award 2013, UNIST — Jan 2014
Chosen as one team of all candidates from School of Electrical and Computer Engineering

PUBLICATIONS

JOURNALS

1) T. Kim, D. Lee, J. Choi, A. Spurlock, A. Sim, A. Todd, K. Wu, **Predicting Baseline for Analysis of Electricity Pricing**, in *International Journal of Big Data Intelligence*, accepted for publication. Jun 2016.

CONFERENCES

2) T. Kim and J. Choi, **Reading documents for bayesian Online Change Point Detection**, in *Empirical Methods on Natural Language Processing* (EMNLP), Lisbon, Portugal, Sep 2015.

3) T. Kim, D. Lee, J. Choi, A. Spurlock, A. Sim, A. Todd, K. Wu, **Extracting Baseline Electricity Usage Using Gradient Tree Boosting**, in *2015 International Conference on Big Data Intelligence and Computing* (DataCom), **Best Paper Award**, Chengdu, China, Dec 2015.

EXPERIENCE

Devsisters, Seoul, South Korea
Software Engineer — Apr 2016 – Present
- Implement deep reinforcement learning models for a fast balance testing
- Build a system for automated anomaly detection with time series datasets
- Work as a substitute of mandatory military service

Vingle, Seoul, South Korea
Software Engineer — Oct 2015 – Apr 2016
- Build a prediction model for age and gender only with the user's action pattern in the services
- Build a personal push notification system and a statistical data visualization for push notification
- Worked as a substitute of mandatory military service

Lawrence Berkeley National Laboratory, California, USA
Undergraduate Research Student — Jul 2015 – Aug 2015
- Identify energy usage patterns in smart meter data, and relate the patterns to actions of households
- Propose baseline usage models for each household to cluster the households into different groups

Probabilistic Artificial Intelligence Lab, UNIST
Undergraduate Research Student — Sep 2014 – Sep 2015
- Improved Bayesian Online Change Point Detection by Reading Texts
- Food image recognition by combining deep convolutional features and shallow encoded features

Moloco, California, USA
Student Web Developer Oct 2014 – Jan 2015
- Implement a maximum-likelihood estimation model of the number of users who will download an application
- Build a web visualization of models from a large-scale database with query optimization and a cache system

Naver Labs, Seoul, South Korea
Software Development Intern Jul 2014 – Aug 2014
- Build a cloud comment hosting service using Django and Angular.js

Mobile Smart Networking Laboratory, UNIST
Undergraduate Research Student Jan 2013 – Aug 2014
- Optimizing Mobile Video Streaming: From Context-aware Scheduling to Cloud-assisted Caching

SCHOLARSHIPS

Global Scholarship for Undergraduate Research Opportunities Program, UNIST 2015
Received $3,000 as a financial support for research internship at Lawrence Berkeley National Laboratory

Academic Performance Scholarship, UNIST 2011 – 2015

National Science and Engineering Scholarship, Korean Student Aid Foundation 2013

PROJECTS

DCGAN in TensorFlow, *Geneartive model*
Implemented Deep Convolutional Generative Adversarial Networks (Radford et, al. 2015) in TensorFlow

Deep Q-network in TensorFlow, *Reinforcement learning*
Implemented Human-level control through deep reinforcement learning (Mnih et, al. 2015) in TensorFlow

Deep Visual Analogy-Making in TensorFlow, *Visual analogy*
Implemented Deep Visual Analogy-Making (Reed et, al. 2015) in TensorFlow

Neural Turing Machine in TensorFlow, *Algorithm learning*
Implemented Neural Turing Machine (Graves et, al. 2014) in TensorFlow

Pixel Recurrent Neural Networks, *Generative model*
Implemented Pixel Recurrent Neural Networks (Oord et, al. 2016) in TensorFlow

End-To-End Memory Networks in TensorFlow, *Question answering*
Implemented End-To-End Memory Networks (Sukhbaatar et, al. 2015) in TensorFlow

Neural Variational Inference for Text Processing in TensorFlow, *Question answering*
Implemented Neural Variational Inference for Text Processing (Miao et, al. 2015) in TensorFlow

Character-Aware Neural Language Models in TensorFlow, *Language model*
Implemented Character-Aware Neural Language Models (Kim et, al. 2016) in TensorFlow

Asynchronous DQN in TensorFlow, *Reinforcement learning*
Implemented Asynchronous Methods for Deep Reinforcement Learning (Mnih et, al. 2016) in TensorFlow

Normalized Advantage Functions in TensorFlow, *Reinforcement learning*
Implemented Continuous Deep Q-Learning with Model-based Acceleration Learning (Gu et, al. 2016) in TensorFlow

Dueling Network in TensorFlow, *Reinforcement learning*
Implemented Dueling Network Architectures for Deep Reinforcement Learning (Wang et, al. 2015) in TensorFlow

Teaching Machines to Read and Comprehend in TensorFlow, *Question answering*
Implemented Teaching Machines to Read and Comprehend (Hermann et, al. 2015) in TensorFlow

Poet Neural, *AI that generates Korean poetry*
Build a generative model for Korean poetry using neural network for Character-level Language and a web demo

ReviewDuk, *Korean sentiment analyzer*
Build a Korean sentiment analyzer using logistic regression and Korean Movie Review dataset

Reverse Engineering, *LINE, KakaoTalk, Between, Ndrive, and Korail*
Reverse engineered 1) LINE, 2) KakaoTalk, 3) Between, 4) Ndrive, and 5) Korail and wrote python libraries

VoxOffice & VoxMusic, *Data Visualization*
A Streamgraph Data Visualization of Film Box Office and Music Chart Ranking

Remote Code Execution, *on UNIST attendance checking devices*
Embedded devices that check attendance cards was vulnerable to MS 08-067. The password of a main DB server for attendance data is extracted by reverse engineering of the attendance checking program

LEADERSHIP

HeXA, Computer Security Club, UNIST
President Aug 2012 – Mar 2013