

# 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 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

Only one selected graduate, awarded by the Minister of Science, ICT and Future Planning

Student Outstanding Contribution Award 2014, UNIST

Dec 2014

Student Outstanding Contribution Award 2013, UNIST

Jan 2014

## 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**, *Deep learning model for image generation*

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

**Neural Face**, *AI that generates face images*

Build a generative model for face images using Deep Convolutional Generative Adversarial Networks and a web demo

**Deep Q-network in TensorFlow**, *Deep learning model for reinforcement learning*

Implemented Human-level control through deep reinforcement learning (Mnih et, al. 2015) in TensorFlow

**Neural Turing Machine in TensorFlow**, *Deep learning model for algorithm learning*

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

**Deep Q-network in TensorFlow**, *Deep learning model for reinforcement learning*

Implemented Human-level control through deep reinforcement learning (Mnih et, al. 2015) in TensorFlow

**Deep Visual Analogy-Making in TensorFlow**, *Deep learning model for visual analogy*

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

**Neural Variational Inference for Text Processing in TensorFlow**, *Deep learning model for question answering*

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

**Character-Aware Neural Language Models in TensorFlow**, *Deep learning model for language model*

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

**End-To-End Memory Networks in TensorFlow**, *Deep learning model for question answering*

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

**Teaching Machines to Read and Comprehend in TensorFlow**, *Deep learning model for 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