Bonggun Shin

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Research Interest

Machine learning, Healthcare, and NLP

Education

2015 – Present **Ph.D.** in Computer Science
Emory University, Atlanta, GA

2009 **M.S.** in Electrical Engineering
KAIST, Daejeon, South Korea

2006 **B.S.** in Computer Engineering
Illinois Institute of Technology, Chicago, IL

Work Experience

[Portfolio]: http://bgshin.wordpress.com/portfolio

Research Intern at **Deargen** May'18 – Aug'18
Deep Learning for Genomics

- Invented a new prognosis-related feature selection algorithm in human lung adenocarcinoma transcriptomes.(**Keras**)
  - Frontiers in Genetics 2019

Research Intern at **Visa Research** June'17 – August'17
Deep Model Compression

- Invented a new embedding compression method (×80 reduction with better performances) (**Keras**).
  - **US Patent**/ IJCAI 2019

Research Intern at **Deargen** May'16 – July'16
Deep Learning for Genomics

- Invented a new cancer biomarker selection method that not only outperforms the previous SOTA by 3%p, but also aligns with the new markers recently discovered in the literature.(**Keras**)
  - **Korean Patent**/ Paper Under Revision

Research Assist. at **Emory University** Aug'15 – Present
Deep Learning and Drug Discovery

- Proposed a new SOTA drug target interaction method (**Tensorflow**) Journal of Machine Learning Research 2019
- Proposed a (now prev.) SOTA sentiment analysis method for classifying tweets (**Tensorflow**).
  WASSA Workshop in EMNLP 2017
- Proposed a new clinical reports classification method (**Tensorflow**). IJCNN 2017

SW Engineer at **December & Comp.** Feb'15 – Aug'15
High Frequency Trading System

- Added a new security broker module to the platform (**C++**)
- Researched a NLP based trading strategy (**scikit-learn**)
- Initiated smart execution strategy project

Selected Publications

[Google Scholar]: http://scholar.google.com/citations?user=j9nUzZAAAAAJ

2019 **B Shin**, S. Park, et al.
Cascaded Wx: a novel prognosis-related feature selection framework in human lung adenocarcinoma transcriptomes
Frontiers in Genetics

2019 **B Shin**, S. Park, K. Kang, and J.C. Ho
Self-Attention Based Molecule Representation for Predicting Drug-Target Interaction
Journal of Machine Learning Research

2019 **B Shin**, H. Yang, and J.D. Choi
The Pupil Has Become the Master: Teacher-Student Model-Based Word Embedding Distillation with Ensemble Learning
IJCAI

2017 **B Shin**, F. H. Chokshi, T. Lee and J.D. Choi
Classification of radiology reports using neural attention models
IJCNN, **[citation: 15]**

2017 **B Shin**, T. Lee and J.D. Choi
Lexicon Integrated CNN Models with Attention for Sentiment Analysis
EMNLP Workshop (WASSA), **[citation: 33]**

Honors and Awards

Nov 2011 **Best Student Paper Finalist**
International Conference on URAI

September 2011 **Best TA Award** , *KAIST*

2010 – 2011, 2007 – 2008 **National Fellowship**
KAIST

September 2011 **Student Travel Grant**
RL Competition, ICML workshop

2004 – 2006 **Dean's List, Scholarship**
IIT

Fall 2004 **Research Grant**
Korea Science and Eng. Foundation

Technical Skills

Programming: C/C++, python, Matlab, R, java, Assemblers, LaTeX

Machine Learning Tools: Keras, Tensorflow, scikit-learn, Pandas