Bonggun Shin

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 ($\times 80$ 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**/ Nature Scientific Report

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

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https://www.linkedin.com/in/bgshin

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, et al. *Wx: a nn-based feature selection algo. for transcriptomic data* Nature Scientific Report
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