# Jungwoo Lee

Email: muon9401@gmail.com • Homepage: https://ljw9111.github.io/

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| **RESEARCH INTERESTS** | Machine Learning, Data Mining, Computational Biology, Deep Learning |

**EDUCATION**

**Seoul National University**, Seoul, Korea                                   Mar 2010 – Present
- Bachelor of Science (B.S.) in Computer Science and Engineering

**REFERRED PUBLICATIONS**

**JOURNAL PAPERS**

[J1]  **Jungwoo Lee\***, Sejoon Oh\*, and Lee Sael, *GIFT: Guided and Interpretable Factorization for Tensors with an Application to Large-Scale Multi-Platform Cancer Analysis*, **Bioinformatics (SCI Q1; top 5.1%; IF=5.481)**, 2018 (\* these authors contributed equally to this work).

[J2]  **Jungwoo Lee**, Dongjin Choi, and Lee Sael, *CTD: Fast, Accurate, and Interpretable Method for Static and Dynamic Tensor Decompositions*, PLOS ONE (SCIE Q1; top 23.4%; IF=2.766), 2018.

[J3]  Byungsoo Jeon, **Jungwoo Lee**, and U Kang, *TeT: Distributed Tera-Scale Tensor Generator*, Journal of Korean Institute of Information Scientists and Engineers (KIISE), 2016.

**CONFERENCE PAPERS**

[C1]  Namyong Park, Byungsoo Jeon, **Jungwoo Lee**, and U Kang, *BIGtensor: Mining Billion-Scale Tensor Made Easy*, ACM International Conference on Information and Knowledge Management (**CIKM**), Indianapolis, USA, 2016 (Demo paper).

**RESEARCH EXPERIENCE**

**Data Mining Lab**, Seoul National University, Korea                          Jan 2016 – Dec 2017
- Undergraduate Research Intern (Advised by Prof. U Kang)
- Research Area: Tensor Decomposition and High-Performance Computing
- Proposed an interpretable tensor decomposition method to discover significant latent relations between cancer and genes in large-scale genome data [J1].
- Proposed a fast, accurate, and directly interpretable tensor decomposition method based on efficient sampling [J2].

**RESEARCH PROJECTS**

**Developing High-Performance Big Data Engine using GPU**                        Jun 2017 – Dec 2017
- Data Mining Lab (Advisor: U Kang)
- Developed efficient parallel algorithms for tensor operations using multiple GPU.
- Core developer of the project, funded by Korea Ministry of Science and ICT.

**Anomaly Detection Techniques on I/O Trace Time Series**                        Mar 2017 – Jun 2017
- Term project for a class "Creative Integrated Design"
- Proposed anomaly detection methods based on LSTM and matrix factorization.
- Core developer of the project, cooperated with SK Telecom company, Korea.

**Stock Data Mining: Trend Analysis and Outlier Detection**                      Mar 2016 – Mar 2017
- Data Mining Lab (Advisor: U Kang)
- Proposed methods for analyzing stock data in conjunction with text data.
- Core developer of the project, cooperated with NC Soft company, Korea.

**AWARDS & SCHOLARSHIPS**

**Humantech Paper Award (Bronze Prize, 3rd in Computer Science)**                        Feb 2017
- Awarded by Samsung, Korea.

**National Science and Technology Scholarship**                                  Mar 2010 – Jun 2017
- Full tuition exemptions for 8 semesters.
- Awarded by Korea Scholarship Foundation (KOSAF), Korea.

**Humantech Paper Award (Bronze Prize, 3rd in Computer Science)**                        Feb 2009
- Awarded by Samsung, Korea.

**Humantech Paper Award (Silver Prize, 2nd in Computer Science)**                        Feb 2008
- Awarded by Samsung, Korea.

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| **WORK EXPERIENCE** | **Republic of Korea Air Force (ROKAF)**, Suwon, Korea | Feb 2011 – Feb 2013 |

**WORK EXPERIENCE** **Republic of Korea Air Force (ROKAF)**, Suwon, Korea Feb 2011 – Feb 2013
- Administrative assistant
- Mandatory military service, served as a sergeant

**RELEVANT COURSEWORK**

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| Introduction to Deep Learning | Spring 2018 |
| Statistics | Spring 2018 |
| Machine Learning (Graduate Coursework) | Fall 2017 |
| Creative Integrated Design | Spring 2017 |
| Introduction to Linear Algebra | Spring 2015 |

**TECHNICAL SKILLS**

MATLAB, R, HTML, Javascript (Advanced)
C/C++, Java (Experienced)
Python, OpenCL (Intermediate)

**LANGUAGES**

Korean: ILR Level 5 – Native proficiency
English: ILR Level 3 – Professional working proficiency
- TOEFL: 104 (Reading: 26, Listening: 27, Speaking: 27, Writing: 24)  Sep 2018
- GRE General: Verbal 157 (76%), Quantitative 170 (96%), Writing 3.5 (41%)  Aug 2018

**REFERENCES**

Prof. U Kang, Dept. of Computer Sci. & Eng., Seoul National University, Korea, ukang@snu.ac.kr
Prof. Sael Lee, Dept. of Computer Sci. & Eng., Seoul National University, Korea, saellee@snu.ac.kr