

HYUN JUN CHOI

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EDUCATION

University of Southern California, Viterbi School of Engineering – Los Angeles, CA **December 2018**
Master of Science in Data Informatics

Relevant courses include but are not limited to: Machine Learning, Foundations of Data Management, Data Informatics Professional Practicum, Foundations and Applications of Data Mining, Probability and Statistics for Data Science, Information Visualization, and Directed Research

Inha University, College of Information Technology & Engineering – Incheon, South Korea **August 2016**
Bachelor of Science, Computer Science

Relevant courses include but are not limited to: Data Structures, Algorithms, Mathematical Statistics 1 and 2, Multivariate Statistics and Lab, Methods of Statistical Analysis, and Design Object-Oriented Development

RESEARCH INTERESTS

- Deep Learning, Recommender Systems based on Deep Learning, Data Mining, Machine Learning, and Neural Network Hyperparameter Optimization

HONORS AND AWARDS

- 1st semester: Honor student **2016**
- 2nd semester: Honor student **2012**

RESEARCH EXPERIENCE

Research Assistant

University of Southern California – Los Angeles, CA

January 2018 – December 2018

Neural Network

- Conducted research on the generalization properties of neural networks across more than one hundred real-world datasets, using the *Python* and *Keras* library for finding the best standard architecture.
- Compared standard classification methods and investigated ways to improve the generalizability of neural nets across more than one hundred real-world datasets.
- Check the effects of adding regularizers, dropout, and Gaussian noise in neural networks.
- Tested the effects of architecture: the number of layers, the number of units, nonlinearities, classification and loss in neural networks.
- Tested whether adding noise to the gradient step improves generalization in neural networks.

Research Assistant

Image Informatics Lab, Inha University – Incheon, South Korea

January 2013 – December 2014

Computer Vision

- Participated in the research project titled “Classification of Synthetic and Real Image using Pattern Features Research”.
- Proposed an image classification algorithm applicable to synthetic and real pictures using a Support Vector Machine.
- Evaluated the performance of the algorithm using *Matlab*.
- Myeong Hui Ha, Hyun Jun Choi, Min Kook Choi, Sang Chul Lee, Classification of Synthetic and Real Images Using Pattern Features (2014) [[English](#), [Korean](#)]

Human-Computer Interaction

- Participated in the research project entitled “The Development of Processing Software for Multi-Information Identification Embedded MIMO”.
- Developed software (in *Java*) to analyze a user’s behavior using input data of computer mouse movement.

POSTER PRESENTATION

HM LEE, **HJ CHOI**, MK CHOI, and SC LEE. *Classification of Synthetic and Real Images Using Pattern Features*. Paper presented at Image Processing and Image Understanding Conference (2014) [[Korean](#)]

PROJECTS

Visualization on datasets from the Correlates of Wars

INF 554 Information Visualization

University of Southern California – Los Angeles, CA

August 2018 – December 2018

- Designed and developed a web application on *Node.js*, and front-end interface using *Angular* written in *JavaScript* and *Bootstrap* CSS framework.
- Visualized military expenditures of top-10 spenders, information concerning militarized interstate disputes, wars, and international trade using datasets provided by the Correlates of Wars. A graphic demonstration was prepared of the relationship between the number of countries at war and the total amount of international trade.
- The responsive and interactive charts implemented with *D3.js* was used to discover data features.
- Hyun Jun Choi, Shiv, Seun, Wars and World Trade (2018) [[Report](#), [GitHub](#), [Website](#)]

Liver Transplant Data Analysis

INF 560 Data Informatics Professional Practicum

University of Southern California – Los Angeles, CA

January 2018 – May 2018

- Analyzed a dataset provided by the Department of Surgery at USC’s Keck School of Medicine so as to identify features associated with graft survival after orthotopic liver transplantation.
- Neural network and SVM used to predict graft survival after Orthotopic liver transplantation using pre-transplant features. The machine learning algorithms were implemented with the *Python* and *Keras* library.
- Hyun Jun Choi, Yujia Deng, Predict Graft Survival after OLT using Pre-Transplant Features (2018) [[Report](#)]

Android Application Development

INF 551 Foundations of Data Management

University of Southern California – Los Angeles, CA

January 2017 – May 2017

- Developed an Android application (in *Java*) for the USC community, which includes students, faculty, and alumni, to recommend good resources in the USC campus and share their extraordinary experiences.
- Used *Firebase* as the database to store all the data and resources.
- Hyun Jun Choi, Wanjin Li, Taoran Ju, Project Final Report (2017) [[Report](#), [GitHub](#)]

WORK EXPERIENCE

Sergeant, 7th Ammunition Depot, Korean Army, Chungju, South Korea

- Guarded military areas

SKILLS & INTERESTS

Programming Languages: Python, C/C++, DynamoDB, Java, JavaScript, SQL, NoSQL, MATLAB, MongoDB, HTML/CSS, JavaScript

Visualization tools: D3.js, Processing.js, P5.js, Three.js, WebGL OpenGL

Web Framework and Cloud Computing: Apache Hadoop, Apache Spark, Apache Cassandra, Apache Hive, AWS (EC2), Git

Software: Microsoft Office, Microsoft Excel

Markup Languages: Latex, XML

Programming Environments: MATLAB/Simulink

Operating Systems: Linux, Windows

Statistical Analysis Software: R, Statistical Analysis System (SAS)

LEADERSHIP & SERVICE

Public Relations Team Leader, TEDxInhaU **2012**
 Inha University – Incheon, South Korea

- Explained the purpose of TEDxInhaU to the school and to private companies to obtain the necessary funding to hold a TedxInhaU conference.
- Advertised TEDxInhaU conference.

Teacher, Yonghyeon-dong Community Service Center, Incheon, Korea **2012**

- Taught programming languages and mathematics to underprivileged middle and high school students who could not afford private tutoring fees

Club President, Inha University Travel Club **2008–2009**
 Inha University – Incheon, South Korea

CERTIFICATION

HIPPA **January 2017 – Current**
 Los Angeles, CA

ORGANIZATION MEMBERSHIP

Member, AAAI **January 2017 – Current**
January 2017 – Current

Member, SoCal K Group **January 2018 – Current**
 Los Angeles, CA

- SoCal K-Group is a group of arts and technology experts in the IT field. This group has seminars, studies, hacker tones, and discussion activities on the Information Technology field.

Member, USC Korean Graduate Student Association (KSGA) **January 2017 – December 2018**
 University of Southern California – Los Angeles, CA

LANGUAGES

Korean (Native Speaker), English (Fluent)