Jaeyoung Choi

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RESEARCH INTEREST

Digital Humanities, Data Curation, Machine Learning, Deep Learning, Natural Language Processing

EDUCATION

Sungkyunkwan University, Seoul, South Korea   Mar 2016–Feb 2021

Bachelor of Arts in Library and Information Science

- GPA: 3.93/4.50

Bachelor of Science in Data Analytics

- GPA: 4.29/4.50

Indiana University, Bloomington, IN   Aug 2019–Dec 2020

Exchange Student, Luddy School of Informatics, Computing and Engineering

- GPA: 4.0/4.0

PUBLICATIONS

Jaeyoung Choi, Heeyoon Yang, Hayoung Oh. 2020. Store Sales Prediction Using Gradient Boosting Models in *Journal of the Korea Institute of Information and Communication Engineering* (JKIICE, 2020)

In Review | **Jaeyoung Choi**, Chaeeun Han, Heeyoon Yang, Yeonkyoung Hong, Seoyoung Jeon and Yongjun Zhu. 2021. Embedding-based Neural Network Models for Book Recommendation in University Libraries in *Workshop on AI + Informetrics* (AII2021, 2021)

PROJECTS

Recommendation System for Sungkyunkwan University Library | *Python*   Oct 2020–Present
- Managed project to implement user-based collaborative filtering system for Sungkyunkwan University
- Utilized the factorization machine algorithm with book preference ratings
- Implemented a neural network to predict user's book preference
- Probed the recommendation system by giving student interviews

Analysis of Seoul Public Bike Usage | *Python, R*   Mar 2019–July 2019
- Administrated digital strategy to help understand predictions for public bike stations in Seoul on a daily basis
- Researched variables and enriched it by centrality and index creation
- Suggested prediction models of statistical analysis, machine learning and neural networks with entity embedding

Factor Analysis of Juvenile delinquent | *R*   Sep 2018–Dec 2018
- Retrieved relevant data from surveys provided by Korean Children and Youth Panel Survey(KCYPS)
- Conducted survival analysis to determine correlated factors for adolescents' first runaway

CLASS PROJECTS

Classification on Korean petitions | *Python*   May 2020–July 2020
- Created word embedding through word2vec and pre-trained word embeddings
- Proposed classification models utilizing deep learning methods such as recurrent neural network (RNN), convolutional neural network(CNN) and long short-term memory(LSTM)

Analysis on the social trend of COVID-19 | *Python, R*   May 2020–July 2020
- Accumulated headlines regarding COVID-19 from the New York Times
- Preprocessed words to see the monthly trend of COVID-19
- Analyzed and visualized the trend using word-cloud
- Wrote short paper about the social trend through co-occurring words with COVID-19

Effects of obesity in outpatient mental health treatment | *R*   Oct 2019–Dec 2019
- Compiled survey data from the 2018 National Survey on Drug Use and Health(NSDUH)
- Interpreted statistical inference from the exposure variable: Body mass index(BMI) and outcome variable: outpatient mental health service utilization
- Formulated additive and interaction models of four covariates: alcohol consumption, suicidal thinking, education level and income
- Wrote paper regarding the models and their influence on the association between obesity and outpatient mental health treatment

Obama to Trump: The American shift | *R*   Oct 2019–Nov 2019
- Analyzed the interaction between immigration attitude and demographic variables to explain the probability of switching votes from Obama to Trump
- Composed a short paper analyzing whether the interactions of demographic factors respect to immigration attitudes have effect on the probability of voting for Trump in 2016, given a vote for Obama in 2012

Exploratory Data Analysis of Life expectancy and its relationship to income | *R*   Sep 2019–Oct 2019
- Scrutinized the relationship between GDP per capita and life expectancy
- Wrote short paper on the statistical inference of the overall patterns regarding GDP and life expectancy for each continent

INTERNSHIPS

Data Marketing Korea *Artificial Intelligence Development Intern*   2020 Winter
- Pre-trained and fine-tuned Bidirectional Encoder Representations from Transformers(BERT) on social buzz data

TEACHING EXPERIENCE

Teaching Assistant of Introduction to Artificial Intelligence   Sep 2020–Dec 2020
- GCO-2002 Introduction to Artificial Intelligence in Institute for Convergence, Sungkyunkwan University
- Contained basic Python programming, Algorithms, Neural Networks, and Deep Learning Techniques
- Answered questions online, marked assignments and proctored exams

AWARDS AND EXTRA CURRICULAR ACTIVITIES

2020 Co-deep Learning Project | *3rd Place*   Feb 2021
- Sungkyunkwan University, Seoul, South Korea

2020 Data Creator Camp Hackathon | *3rd Place*   Oct 2020
- National Information Society Agency, Seoul, South Korea

TNT(Train aNd Test)   Sep 2020–Sep 2021
- Gave lectures and made study material on weekly basis
- Participated in study groups for natural language processing and data mining

P-SAT (Power Statistical Analysis Techniques)   Sep 2018–Sep 2019
- Engaged in study groups for regression and categorical data analysis
- Prepared learning materials of statistical inference and gave lectures on a weekly basis

SCAA(Sungkyunkwan Cyber Advertisement & administrator Association)   Mar 2016–Dec 2018
- Cooperated in projects with the Sungkyunkwan University Public Relation Department
- Conducted interviews with various faculty and students

SKILLS

Programming: Python, R, SQL, HTML, QGIS
Language: English(Fluent), Korean(Navtive)