Younghun Lee

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Profile

Computer Scientist interested in **natural language processing**. Proficient in software development, data analysis and retrieval, social network analysis, human-computer interaction, and machine learning.

Education

Sep 2015 to Apr 2017 — **University of Michigan**, Ann Arbor, Michigan

Master of Science in **Information**, GPA: 3.83/4.0

- Study Emphases: **Information Analysis and Retrieval** and **Human-computer Interaction**
- Research: Interaction retrieval and analysis, advised by Professor Mark W. Newman
- Award: **Outstanding Graduate Student Instructor of the Year** in 2016-2017. Recognized by University of Michigan School of Information

Mar 2008 to Feb 2015 — **Seoul National University**, Seoul, South Korea

Bachelor of Science in **Electrical and Computer Engineering**, GPA: 3.56/4.0 (*Cum Laude*)

- Study Emphases: **Computer Science** and **Applied Electrical Engineering**
- Research: Data mining and visualization, advised by Professor Joonhwan Lee
- Award: **Dean of Faculty of Liberal Education Prize (1st Prize)** in Fall 2012. Recognized by *The Best Paper Competition in "Writing in Science & Technology"*
- Graduation Thesis: *Power-free Ion Control System by Capillary Ion Concentration Polarization*

Selected Projects

Feb 2017 to Apr 2017 — **Revealing the Network and Diffusion Patterns of False Information**

- Customized *Twitter API for Python* in order to retrieve more than a million messages containing specific URL information from Twitter
- Automated the process of establishing friends and follower network graphs
- Analyzed graphs with centrality measures and identified characteristics of false information

Nov 2016 to Dec 2016 — **Investigating the Effect of Presidential Election Results on Hate Crimes**

- Developed a Python program with NLTK in order to retrieve Twitter messages on hate crimes and analyze the sentiment of each message
- Investigated the statistical significance of a null hypothesis with t-statistics

Mar 2016 to Apr 2016 — **Developing a UFO Search Engine** (Summary Paper)

- Improved an existing UFO search engine by evaluating information retrieval methodologies such as inverted index, tf-idf, PageRank, and query expansion

May 2014 to Jun 2014 — **Sawtooth Bubble Chart—Visualizing Human Emotion** (Summary Paper)

- Implemented a visualization model that represents arousal and valence of human emotion
- Retrieved and categorized Twitter data by time, age, and geolocation

Mar 2014 to May 2014 — **Korean Text Analysis—Relevancy Visualization of Morphemes**

- Developed a vector space model that parses a Korean document, calculates the intensity of relevancy between meaningful words by cosine similarities
- Improved the model by experimenting with different weights on bigrams and trigrams

Dec 2013 to Jan 2014 — **Visualizing Articles with Different Viewpoints**

- Built a web application that parses two Korean articles of the same subject into morphemes, classifying their similarities and differences, and visualizing them with word clouds

Skills

Language	Python, C++, JavaScript, JQuery, SQL (fluent), PHP, R (proficient), Java(beginner)
API / Platforms	NLTK, Tweepy, Firebase, Flask, Django, AngularJS (proficient), D3.js, ASP.NET (beginner)

Academic Experience

Sep 2016 to Apr 2017 — **Graduate Student Instructor** at **University of Michigan School of Information**

- Fall 2016: Taught *Data Oriented Programming* (SI 206) to 88 undergraduate students
- Winter 2017: Taught *Intermediate Programming* (SI 507) to 127 graduate students

Nov 2016 to Apr 2017 — **Independent Study—User Interaction Pattern Retrieval and Log Analysis**

- Implemented an Android web emulator from a Java application that captures user interaction patterns and stores log data in Firebase database
- Recruited 100 users from Amazon Mechanical Turk and analyzed log files in order to determine the type of tasks

Nov 2015 to Apr 2016 — **Research Assistant** at **IRIS (Institute for Research on Innovation & Science)**

- Improved IRIS portal webpage dashboard by adding 6 main features (PHP, JavaScript, JQuery)
- Altered $O(n^2)$ key generation algorithm into O(n) by implementing a hash table (SQL)

Professional Experience

Jun 2016 to Aug 2017 — **UX Developer Intern**

Gale Cengage Learning, Farmington, Michigan

- Created 3 data-driven reports about user behaviors by retrieving and analyzing data from Google Analytics tools and Google Data Studio
- Developed a web application for internal salespeople to help them demonstrate the value of Gale's resources and recommend suitable products to customers (Python, JavaScript, JQuery)

Jan 2015 to Jul 2015 — **Associate Software Engineer**

Samsung Electronics Co., Ltd., Suwon, Gyeonggi-do, South Korea

- Implemented 3 GUI features to an Android mobile application as a part of fast prototyping project
- Achieved 2nd place in the Creative Idea Competition held by Digital Media and Communication R&D Center

Jan 2013 to Feb 2013 — **Intern**

LG CNS, Seoul, Korea

- Implemented an automatic restoration solution for the development server (Redmine on Linux server)

Scholarships

Mar 2013 to Feb 2013 — *Kwanak Corporation Scholarship* by Seoul National University Alumni Association

Mar 2010 to Feb 2011 — *Superior Academic Performance Scholarship* by Seoul National University

Mar 2008 to Feb 2009 — *National Scholarship for Science and Engineering* by National Research Foundation of Korea

References

Mark W. Newman — Associate Professor
University of Michigan School of Information
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