Alyssa Hwang

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science
PhD in Computer Science | Sept 2020-Present

Columbia University, Fu Foundation School of Engineering and Applied Science
BS in Computer Science | May 2020
Egleston Scholar (top 1% of Columbia Engineering applicants)
Dean's List (Fall 2017, Spring 2018, Fall 2018, Spring 2019)

HONORS

2020 National Science Foundation Graduate Research Fellowship
2019 Google Grace Hopper Celebration Travel Scholarship
2018 Johnson & Johnson Program Summer Research Grant
2018 Data Science Institute Scholars Program and Grant
2016 Elks National Foundation Most Valuable Student Scholarship National Finalist

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Google, Mountain View, CA (Remote), Summer 2020
- Build hierarchical RNN for dialogue act recognition using Tensorflow and BERT embeddings.

Software Engineering Intern, Google, Mountain View, CA, Summer 2019
- Expand image results for events displayed on Search from one directly pulled from the markup to multiple queried from an external API.

PUBLICATIONS AND PRESENTATIONS

Tuhin Chakrabarty, Christopher Hidey, Smaranda Muresan, Kathy McKeown, **Alyssa Hwang**. "AMPERSAND: Argument Mining for PERSuAsive oNline Discussions." *Empirical Methods in Natural Language Processing* 2019.

Alyssa Hwang and Christopher Hidey. "Confirming the Non-compositionality of Idioms for Sentiment Analysis." *ACL Joint Workshop on Multiword Expressions and WordNet* 2019.

Alyssa Hwang. "Evaluation of Hate Speech Labeling in Gang-Related Tweets." *Harvard National Collegiate Research Experience* 2019. Poster Presentation.

Alyssa Hwang. "Citation Spans of Hyperlinks in Change My View Posts." *Stanford Research Conference* 2018. Poster Presentation.

Alyssa Hwang. "Persuasive Characteristics of Hyperlinks in Change My View Posts." *Harvard National Research Conference* 2018. Poster Presentation.

Christopher Hidey, Elena Musi, **Alyssa Hwang**, Smaranda Muresan, and Kathy McKeown. "Analyzing the Semantic Types of Claims and Premises in an Online Persuasive Forum." *EMNLP Workshop on Argument Mining* 2017.

Alyssa Hwang and Sara Chung. "A Novel Stimulus and Analysis System for Studying the Neural Mechanisms of Natural Language Processing in the Human Brain." *International Workshop on Natural Language Processing and Cognitive Science* 2015.

RESEARCH EXPERIENCE

Columbia University, Natural Language Text Processing Lab, New York, NY
Senior Thesis: Advised by Professor Kathleen McKeown, Fall 2019-Present

- Cluster unknown words in Twitter African American English, Gang Violence, and Brown Corpus datasets to improve methods for learning new slang and dialectical English.

Columbia University, Natural Language Text Processing Lab, New York, NY
Idiom Sentiment Analysis: Advised by Christopher Hidey, Fall 2018-Spring 2019

- Analyze the sentiment of idiomatic multiword expressions to show that idioms are not compositional for emotional content.

Columbia University, Data Science Institute, New York, NY
Hate Speech Classification: Advised by Profs. Kathleen McKeown, Eugene Wu, Summer 2018

- Integrate Keras model with Deep Neural Inspector to evaluate the correlation between node activity and hypothesis functions to analyze what each node and layer has learned.

Columbia University, Natural Language Text Processing Lab, New York, NY
Hyperlink Citation Span Detection: Advised by Christopher Hidey, Fall 2017-Spring 2018

- Program automatic window labeling to predict the citation spans of hyperlinks found in Change My View posts (PRAW, BeautifulSoup, Newspaper, SpaCy, sklearn).

Columbia University, Natural Language Text Processing Lab, New York, NY
Arg. Mining: Advised by Christopher Hidey, Smaranda Muresan, Elena Musi, Summer 2017

- Design annotation scheme in XML for detecting modes in argumentation, types of claims, and premise-claim relations.

Columbia University, Natural Language Text Processing Lab, New York, NY
Arg. Mining: Advised by Christopher Hidey

- Annotate and gather data for modes in argumentation, types of claims, and premise-claim relations from the Change My View Subreddit.

TEACHING EXPERIENCE

Teaching Assistant, Natural Language Processing, Columbia University, Spring 2020
- For class of 80 undergraduate and graduate students instructed by Michael Collins: lead TA team, grade homework, and host weekly office hours while balancing challenges of COVID-19 crisis.

Teaching Assistant, Natural Language Processing, Columbia University, Fall 2019
- For class of 100 undergraduate and graduate students instructed by Kathleen McKeown: prepare homework solutions, grade biweekly homework, midterm, and final, host weekly office hours, and answer online discussion board questions.

Teaching Assistant, Natural Language Processing, Columbia University, Spring 2019
- For class of 154 undergraduate and graduate students instructed by Michael Collins: organize TA logistics, write grading scripts, update homework skeleton code from Python2 to Python3, grade biweekly homework, midterm, and final, host weekly office hours, and answer online discussion board questions.

Teaching Assistant, Intro. to Java, Columbia University, Summer 2018
- Design curriculum for introductory Java and advise 20 high school students.

Teaching Assistant, Web Dev. in Python, Columbia University, Summer 2018
- Design curriculum for introductory Python and web development tools like AWS and Maven, advise 20 high school students, and teach "Git Better" workshop for advanced Git skills.

SERVICE

Interviewer, Mentor, Tour Guide, Undergraduate Recruitment Committee, Fall 2017-Present
- Interview 10 applicants per cycle, mentor incoming first years with focus on women in engineering and CS, conduct weekly tours to 20+ attendees.

Program Leader, Egleston Scholars Program, Fall 2018-Present
- Advise younger scholars on areas related to engineering education and career development, organize mentorship groups for 53 scholars, plan monthly community bonding events.

Operations Committee Member, Columbia University Food Pantry, Fall 2018-Present
- Supervise volunteer shifts, take inventory, accept deliveries, and oversee general operations.

SKILLS

Programming Languages: Python, C/C++, Java, R
Tools: SpaCy, sklearn, Pandas, NumPy, PyTorch, Tensorflow