Alyssa Hwang

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Education

Sept 2020 –
Present

University of Pennsylvania – Philadelphia, PA
PhD in Computer and Information Science
Advisors: Andrew Head, Chris Callison-Burch

May 2020

Columbia University – New York, NY
BS in Computer Science
Advisor: Kathleen McKeown
Thesis: Towards Augmenting Lexical Resources for Slang and African American English

Honors

2022 **Amazon Alexa Taskbot Competition** Finalist Team

2020 **Columbia University** Theodore R. Bashkow Award
Presented to a computer science senior who has excelled in independent projects.

2020 **National Science Foundation** Graduate Research Fellowship Program

2019 **Google** Grace Hopper Celebration Travel Scholarship

2018 **Johnson & Johnson** Summer Research Grant

2018 **Columbia University** Data Science Institute Scholars Program and Grant

2016 **Elks National Foundation** Most Valuable Student Scholarship National Finalist

Publications

VarDial 2020 **Towards Augmenting Lexical Resources for Slang and African American English**
Alyssa Hwang, William R. Frey, and Kathleen McKeown
COLING 7th Workshop on NLP for Similar Languages, Varieties and Dialects 2020

EMNLP 2019 **AMPERSAND: Argument Mining for PERSuAsive oNline Discussions**
Tuhin Chakrabarty, Christopher Hidey, Smaranda Muresan, Kathy McKeown, **Alyssa Hwang**
Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (2019).

MWE-WN 2019	**Confirming the Non-compositionality of Idioms for Sentiment Analysis** **Alyssa Hwang** and Christopher Hidey *ACL 15th Joint Workshop on Multiword Expressions and WordNet (2019)*
ArgMining 2017	**Analyzing the Semantic Types of Claims and Premises in an Online Persuasive Forum** Christopher Hidey, Elena Musi, **Alyssa Hwang**, Smaranda Muresan, and Kathleen McKeown *ACL 4th Workshop on Argument Mining (2017)*

Research Experience

University of Pennsylvania PennHCI and PennNLP

Sept 2021 – Present	*Recipe for Success: Instructional Design for Voice Assistants* Design and run Wizard-of-Oz voice assistant user studies to understand the challenges of being guided through a recipe by a voice assistant. Advisors: Andrew Head, Chris Callison-Burch

University of Pennsylvania PennNLP

Sept 2020 – May 2021	*On the Cognition of Grammatical Gender* Study the possible effects of grammatical gender on cognition by finding statistically significant relationships between gendered nouns and the adjectives/verbs they co-occur with. *Advisor*: Chris Callison-Burch

Columbia University Natural Language Text Processing Lab

Sept 2019 – May 2020	*Towards Augmenting Lexical Resources for Slang and African American English* Cluster unknown words in Twitter African American English, Gang Violence, and Brown Corpus datasets to improve methods for learning new slang and different dialects of English. *Undergraduate Thesis Advisor*: Kathleen McKeown
Sept 2018 – May 2020	*Confirming the Non-compositionality of Idioms for Sentiment Analysis* Analyze the sentiment of idiomatic multiword expressions to show that idioms are not compositional for emotional content. *Mentor*: Christopher Hidey

Sept 2017 – May 2018	*Detecting and Characterizing Spans of Hyperlinks in Change My View Posts*
	Program automatic window labeling to predict the citation spans of hyperlinks found in Change My View posts (PRAW, BeautifulSoup, Newspaper, SpaCy, sklearn).
	Mentor: Christopher Hidey
Sept 2016 – Sept 2017	*Analyzing the Semantic Types of Claims and Premises in an Online Persuasive Forum*
	Design annotation scheme in XML for detecting modes in argumentation, types of claims, and premise-claim relations; annotate and gather data for modes in argumentation, types of claims, and premise-claim relations from the Change My View Subreddit.
	Mentors: Christopher Hidey, Smaranda Muresan, Elena Musi

Columbia University Data Science Institute

Summer 2018	*Explaining Hate Speech Classification with Deep Neural Inspection*
	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.
	Mentors: Eugene Wu, Kathleen McKeown, Thibault Sellam

Industry Experience

Summer 2022	**Amazon Web Services** (Applied Scientist Intern) – New York, NY
	Tentative: Query-Based Summarization with Large Language Models
	Hosts: Kathleen McKeown, Kalpit Dixit
Summer 2021	**Google** (Software Engineering Intern) – Pittsburgh, PA
	Image Ranking for Shopping
	Design clustering and ranking algorithm to display top user-submitted review images for Shopping; analyze image data and propose signal thresholds to identify low-quality images.
	Hosts: Wei Wan, Tao Chen
Summer 2020	**Google** (Software Engineering Intern) – Mountain View, CA
	Dialogue Act Recognition for Dialogflow
	Train hierarchical RNN + CRF model for dialogue act recognition using Tensorflow and BERT embeddings.
	Hosts: Chuan Wang, Igor Poletaev

Summer 2019   **Google** (Software Engineering Intern) – Mountain View, CA
Image Carousel for Events Search
Expand image results for events displayed on Search from one directly pulled from
the markup to multiple queried from an external API.
Hosts: YoungHoon Jung, Souvik Dutta Chowdhury

Teaching

Fall 2021   Teaching Assistant, Computational Linguistics, University of Pennsylvania
Instructor: Mark Yatskar

Spring 2019,   Teaching Assistant, Natural Language Processing, Columbia University
Spring 2020   Instructor: Michael Collins

Fall 2019   Teaching Assistant, Natural Language Processing, Columbia University
Instructor: Kathleen McKeown

Summer 2018   Teaching Assistant, Intro. to Java & Web Dev. in Python, Columbia University
Instructor: Brandon Mazey

Research Mentoring

Summer 2022   Juni Kim (Independent Study)
Spring 2022   Jasmine Chen (Undergraduate Thesis)

Service

Sept 2020 –   **Computer and Information Science Doctoral Association (CISDA)**
Present   *Co-Chair*
Represent PhD students at weekly faculty meetings as elected liaison, assist with
rewriting curriculum guidelines, and plan social events for the department.

Sept 2021 –   **Penn Engineering Dean's Doctoral Advisory Board**
May 2022   *Elected Representative*
Represent PhD students of the Department of Computer and Information Science at
monthly meetings with Associate Dean for Graduate Programs Boon Thau Loo.

March – Oct 2021	**MindCORE *Di*versity and *E*quity *In*itiative (DivE In)**
	Programming Development Committee Lead
	Lead the Programming Development Committee and sit on Steering Committee for the inaugural DivE In, a fully funded weekend of workshops for undergraduate students from underrepresented communities who are interested in graduate study in the mind sciences.
Sept – Dec 2020	**Penn CIS Applicant-Support Program**
	Program Leader
	Match PhD applicants from underrepresented communities with current Penn CIS PhD students for guidance throughout application process.

Outreach

Nov 2021	**University of Pennsylvania School of Engineering and Applied Science**
	Invited Panelist, PhD Open House
March 2021	**ACM Capital Region Celebration of Women in Computing (CAPWIC)**
	Invited Panelist, Graduate School: Is It Right for Me?
Jan 2021	**University of Pennsylvania School of Engineering and Applied Science**
	Invited Panelist, Graduate Recruitment Panel
Nov 2020	**University of Pennsylvania School of Engineering and Applied Science**
	Invited Panelist, PhD Open House
Oct 2020	**Columbia University Department of Computer Science**
	Invited Speaker, Alumni-In-Residence Discussion