Alyssa Hwang

ahwang16@seas.upenn.edu · alyssahwang.com

Modified: October 29, 2023

Research Interests

I work on AI assistants that effectively deliver complex information. I recently conducted an in-depth observational study to propose guidelines for adapting text instructions for voice assistants. I am currently leveraging large language models to help users fluidly navigate information while listening to audiobooks.

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

Work Experience

Summer 2022
AWS Comprehend (Applied Scientist Intern) – New York, NY
NewsQs: Multi-Source Question Generation for the Inquiring Mind
Hosts: Kathleen McKeown, Kalpit Dixit

Summer 2021
Google (Software Engineering Intern) – Pittsburgh, PA
Image Ranking for Shopping
Hosts: Wei Wan, Tao Chen

Summer 2020
Google (Software Engineering Intern) – Mountain View, CA
Dialogue Act Recognition for Dialogflow
Hosts: Chuan Wang, Igor Poletaev

Honors

2023	**OpenAI**, DevDay Invited Attendee	
2023	**Penn Engineering**, Outstanding Service Award	
2022	**Amazon Alexa Prize Taskbot Competition**, Finalist Team	
2022	**CRA-WP Grad Cohort for Women**, Invited Attendee	
2020	**Columbia University**, Theodore R. Bashkow Award	
	Presented to a senior in computer science 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	

Publications, Articles, and Preprints

* Equal contribution

CHI 2024
Ivie: Lightweight Anchored Explanations of Just-Generated Code
Litao Yan, **Alyssa Hwang**, Zhiyuan Wu, Andrew Head
ACM Conference on Human Factors in Computing Systems (in submission).

NLP-OSS 2023
Kani: A Lightweight and Highly Hackable Framework for Building Language Model Applications
Andrew Zhu*, Liam Dugan*, **Alyssa Hwang**, Chris Callison-Burch
Workshop for Natural Language Processing Open-Source Software (co-located with EMNLP) (to appear). OpenReview preprint.

arXiv 2023
Large Language Models as Sous Chefs: Revising Recipes with GPT-3
Alyssa Hwang*, Bryan Li*, Zhaoyi Hou*, Dan Roth
arXiv preprint.

in preparation
NewsQs: Multi-Source Question Generation for the Inquiring Mind
Alyssa Hwang, Kalpit Dixit, Miguel Ballesteros, Yassine Benajiba, Vittorio Castelli, Markus Dreyer, Mohit Bansal, Kathleen McKeown
Work conducting during an internship at AWS AI Labs (in preparation).

DIS 2023
Rewriting the Script: Adapting Text Instructions for Voice Interaction
Alyssa Hwang, Natasha Oza, Chris Callison-Burch, Andrew Head
ACM Conference on Designing Interactive Systems.

Amazon 2022	**QuakerBot: A Household Dialog System Powered by Large Language Models** Artemis Panagopoulou, Manni Arora, Li Zhang, Dimitri Cugini, Weiqiu You, Yue Yang, Liyang Zhou, Yuxuan Wang, Zhaoyi Hou, **Alyssa Hwang**, Lara Martin, Sherry Shi, Chris Callison-Burch, Mark Yatskar *Alexa Prize Taskbot Proceedings.*
VarDial 2020	**Towards Augmenting Lexical Resources for Slang and African American English** **Alyssa Hwang**, William R. Frey, and Kathleen McKeown *Workshop on NLP for Similar Languages, Varieties and Dialects (co-located with COLING).*
EMNLP 2019	**AMPERSAND: Argument Mining for PERSuAsive oNline Discussions** Tuhin Chakrabarty, Christopher Hidey, Smaranda Muresan, Kathy McKeown, **Alyssa Hwang** *2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing.*
MWE-WN 2019	**Confirming the Non-compositionality of Idioms for Sentiment Analysis** **Alyssa Hwang** and Christopher Hidey *Joint Workshop on Multiword Expressions and WordNet (co-located with ACL).*
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 *Workshop on Argument Mining (co-located with ACL).*

Invited Talks

Sept 18, 2023	**University of Pennsylvania Computational Linguistics Lunch (CLunch)** Rewriting the Script: Adapting Text Instructions for Voice Interaction

Media and Impact

Oct 7, 2023	**Introducing Kani (Sanskrit Word):** **A Game-Changing Open-Source AI Framework for Language Models** Sateesh Hegde, *Medium.* *Kani was originally named after the Japanese word for crab and coincidentally means "knowledge" in Sanskrit.*
Oct 2, 2023	**Rewriting the Script: Developing Effective AI Assistants** **Alyssa Hwang**, *Penn Engineering Today.*

Sept 23, 2023   **Top Trending LLM Projects of the Week: Dive into the Future of Tech!**
AutoGPT Tutorials, *YouTube*.

Sept 21, 2023   **kani: lightweight LLM framework (Japanese)**
Hamachi, *note*.

Sept 20, 2023   **Kani, an Open-Source Framework from the University of Pennsylvania, is Reshaping Large Language Model Applications**
Multiplatform.ai.

Sept 19, 2023   **What is Trending in AI Research?: InstaFlow + Kani + Slot-TTA + MagiCapture + What is Trending in AI Tools?**
ASIF RAZZAQ, *MarkTechPost*

Sept 19, 2023   **Kani: A Lightweight and Customizable Framework for Language Model Applications**
Michał Rogucki, *TS2 Space*.

Sept 19, 2023   **Unlocking AI Potential: Unveiling Kani, the Groundbreaking Open-Source Framework Revolutionizing Large Language Model Applications**
Casey Jones, *CJ&CO*.

Sept 18, 2023   **Researchers from the University of Pennsylvania Introduce Kani: A Lightweight, Flexible, and Model-Agnostic Open-Source AI Framework for Building Language Model Applications**
Tanya Malhotra, *MarkTechPost*.

Feb 19, 2021   **Doctorates do Valentines!**
Ebonee Johnson, *Official Blog of the Penn Dept. of Computer and Information Science*.

Teaching

Fall 2022   **Head Teaching Assistant**, CIS 3990 Introduction to Human-Computer Interaction
Instructor: Danaë Metaxa (University of Pennsylvania)

Fall 2021   **Teaching Assistant**, CIS 5300 Computational Linguistics
Instructor: Mark Yatskar (University of Pennsylvania)

Spring 2020   **Teaching Assistant**, COMS 4705 Natural Language Processing
Spring 2019   Instructor: Michael Collins (Columbia University)

Fall 2019	**Teaching Assistant**, COMS 4705 Natural Language Processing Instructor: Kathleen McKeown (Columbia University)
Summer 2018	**Teaching Assistant**, Introduction to Java Instructor: Brandon Mazey (Columbia University Pre-college Programs)
Summer 2018	**Teaching Assistant**, Web Development in Python Instructor: Brandon Mazey (Columbia University Pre-college Programs)

Mentoring

Fall 2023– Spring 2024	Matthew Burke, Ryan Hsing-Smith, Bryan Yao, Joseph Koo, Sebastian Lee, Zachary Arnold (Senior Design Project)
Summer 2022	Juni Kim (Independent Study)
Spring 2022	Jasmine Chen (Undergraduate Thesis)

Outreach

Sept 2023	**University of Pennsylvania Department of Computer and Information Science** *Invited Panelist*, PhD New Student Orientation
Nov 2022	**MindCORE *Div*ersity and *E*quity *In*itiative (DivE In)** *Invited Speaker*, Overview of the PhD Application Process
Nov 2021	**University of Pennsylvania School of Engineering and Applied Science** *Invited Panelist*, PhD Open House
Mar 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

Leadership

May 2022–Present
Penn CIS PhD Mentorship Program
Founder
Launch Mentorship Program for PhD students in the Department of Computer and Information Science at the University of Pennsylvania, where first- and second-years are matched with senior students and invited to monthly social events.

Sept 2020–Present
Computer and Information Science Doctoral Association (CISDA)
Co-Chair
Lead group of elected students that advocates for student interests and liaises with faculty leaders of the Department of Computer and Information Science and School of Engineering and Applied Science.

Sept 2022–May 2023
Department of Computer and Information Science Office Committee
PhD Representative
Coordinate seat assignments and other office logistics for CIS PhD students.

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

Sept–Dec 2021
Penn NLP Computational Linguistics Lunch (CLunch)
Co-organizer
Coordinate speakers for Computational Linguistics seminar series.

Mar–Oct 2021
MindCORE *Div*ersity and *E*quity *In*itiative (DivE In)
Programming Development Committee Lead
Lead the Programming Development and sit on Steering Committees for the inaugural DivE In, a fully funded weekend of workshops for underrepresented undergraduates who are interested in the mind sciences. Media coverage on OMNIA.

Sept–Dec 2020
Penn CIS Applicant-Support Program
Program Leader
Match underrepresented PhD applicants with current Penn CIS PhD students for mentorship throughout application process. Media coverage on Penn CIS Highlights.