Eleanor M. Lin

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Education

University of Michigan, College of Engineering　　　　　　　　　　　August 2024 – Present
Doctor of Philosophy, Computer Science & Engineering　　　　　　　　　　　*Ann Arbor, MI*

National Tsing Hua University, College of Humanities and Social Sciences　　June 2024 – August 2024
Taiwan Intensive Summer Language Program Student (Non-degree)　　　　　　*Hsinchu, TW*

Columbia University, Columbia College　　　　　　　　　　　September 2020 – May 2024
Bachelor of Arts, Computer Science & Linguistics　　　　　　　　　　　*New York, NY*
Honors: *Summa cum Laude* (GPA: 4.1/4.0)

Publications

Working Papers & Preprints

Debasmita Bhattacharya*, **Eleanor Lin***, Run Chen, and Julia Hirschberg. 2024. Switching Tongues, Sharing Hearts: Identifying the Relationship between Empathy and Code-switching in Speech. (*Accepted to INTERSPEECH 2024; *DB and EL are equal contributors to this work and are designated as co-first authors.*)

Run Chen, Haozhe Chen, Anushka Kulkarni, **Eleanor Lin**, Linda Pang, Divya Tadimeti, Jun Shin, and Julia Hirschberg. 2024. Detecting Empathy in Speech. (*Accepted to INTERSPEECH 2024*)

Thesis

Eleanor Lin. 2024. Developing Performant Models for Translating Spoken Taiwanese Into Spoken English Using Free and Publicly Available Resources. Undergraduate thesis. [Thesis]

Refereed Publications

Run Chen, **Eleanor Lin**, Shayan Hooshmand, Mariam Mustafa, Rose Sloan, Ritika Nandi, Alicia Yang, Andrea Lopez, Ansh Kothary, Isaac Suh, Catherine Lyu, Eric Chen, Sophia Horng, and Julia Hirschberg. 2024. RASwDA: Re-Aligned Switchboard Dialog Act Corpus for Dialog Act Prediction in Conversations. *International Workshop on Spoken Dialogue Systems Technology*. Sapporo, Japan. Accepted as poster presentation. [Paper]

Eleanor Lin, James Hale, and Jonathan Gratch. 2023. Toward a Better Understanding of the Emotional Dynamics of Negotiation with Large Language Models. In *The Twenty-fourth International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc '23), October 23–26, 2023, Washington, DC, USA*. ACM, New York, NY, USA, 545–550. Accepted as oral presentation. [Paper]

News Articles

Eleanor Lin and Jessica Li. 2021. Students find community through Columbia Confessions. *Columbia Daily Spectator.* [Article]

Presentations

Annual Conference of the International Association for Conflict Management (IACM), Singapore, June 2024. James Hale, **Eleanor Lin**, Ian Wu, Zora Rong, Kushal Chawla, Gale Lucas, and Jonathan Gratch. "Instilling discipline in LLM-based negotiating agents." Symposium talk.

Emory Undergraduate Linguistics Conference, Online, April 2024. **Eleanor Lin**. "Toward a Sociolinguistic Profile of Taiwanese Americans." Oral presentation. [Working Paper] [Slides]

Columbia University Undergraduate Research Symposium, New York, NY, October 2022. **Eleanor Lin**, Ziyan Yang, and Vicente Ordóñez. "Text-Based Prediction of Visual Complexity: How Does What We See Influence What We Say?" Poster presentation. [Paper] [Slides] [Poster] [Code]

Grants, Awards, and Academic Honors

Departmental Honors in Linguistics, Columbia University Linguistics Program 2024
One of two graduating linguistics majors selected for honors, on the basis of the quality of the senior thesis.

Computer Science Scholarship Award, Columbia University Department of Computer Science 2024
One of two B.A. candidates selected annually on the basis of "outstanding academic achievement in computer science."

Fulbright-Hays Group Projects Abroad Scholarship, American Councils for International Education 2024
Awarded $7000 toward the cost of attendance for Taiwan Intensive Summer Language Program.

Columbia College Dean's List, Columbia University 2020 – 2024

Work Exemption Program Grant, Columbia University 2024
Recipient of $1,820 Columbia Grant (financial aid) to support pursuit of research in the Columbia Speech Lab.

Outstanding Undergraduate Researcher Award - Honorable Mention, Computing Research Association 2023

Junior Phi Beta Kappa, Columbia University 2023
The highest scholastic distinction in the Columbia College Class of 2024 (awarded to top 2% of students).

Upsilon Pi Epsilon International Honor Society Member, Columbia University 2023
In recognition of GPA in the top 15% for computer and information science juniors and seniors at Columbia.

REU Travel Grant, National Science Foundation 2023

NSF Research Experiences for Undergraduates Intern, University of Southern California 2023

Distributed Research Experiences for Undergraduates Intern, Computing Research Association 2022

Computer Science Research Mentorship Program Scholar, Google 2021

Research Experience

Blablablab, University of Michigan August 2024 - Present
Graduate Student Research Assistant (Advisor: Professor David Jurgens) *Ann Arbor, MI*

Conduct research at the intersection of NLP, computational social science, and sociolinguistics.

Speech Lab, Columbia University January 2022 – May 2024
Research Assistant (Advisor: Professor Julia Hirschberg) *New York, NY*

Investigated pragmatic factors in code-switching by developing dialog act annotation scheme for code-switched speech. Discovered positive association between empathy and code-switching by detecting empathetic utterances in code-switched Mandarin-English speech, using RoBERTa fine-tuned for empathy detection. Fine-tuned Wav2Vec2 for end-to-end dialog act classification on Switchboard Dialog Act Corpus, using PyTorch and Hugging Face Transformers. Processed video, audio, and text with Python, Praat, and FFmpeg, for multilingual empathetic speech corpus.

Affective Computing Lab, University of Southern California May 2023 – August 2023
REU Intern (Advisor: Professor Jonathan Gratch) *Los Angeles, CA*

Developed negotiating agent for online studies of human negotiation behaviors. Engineered large language model prompts for agent NLU/NLG with OpenAI API. Built user interface using HTML, CSS, JavaScript, Flask. Assembled Qualtrics survey for crowdworkers to evaluate agent. Lead author of paper published in proceedings of *MobiHoc '23*.

Vision, Language, and Learning Lab, Rice University May 2022 – July 2022
Visiting Student Researcher (Advisor: Professor Vicente Ordóñez-Román) *Houston, TX*

Quantified visual and linguistic complexity in MSCOCO image captioning dataset by creating and applying novel visual complexity metric. Fine-tuned BERT to predict visual complexity from image captions and probed and mitigated its content-related biases. Presented poster at Columbia University's 2022 Undergraduate Research Symposium.

Natural Language Text Processing Lab, Columbia University October 2021 – December 2021
Data Annotator (Supervisor: Fei-Tzin Lee) *New York, NY*

Generated Abstract Meaning Representation semantic annotations for literary domain text generation.

Corter Lab, Columbia University March 2021 – June 2021
Research Assistant (Advisor: Katherine Moore) *New York, NY*

Identified communication strategies in collaborative learning dialogues by annotating speech acts and analyzing *n*-

gram frequencies with R. Onboarded research assistants to annotate measures of learning success.

Teaching Experience

Columbia COMS3771: Machine Learning   January 2024 - May 2024
Course Assistant   *New York, NY*

Columbia LING4903: Syntax   September 2023 – December 2023
Teaching Assistant   *New York, NY*

Columbia COMS3251: Computational Linear Algebra   September 2022 – December 2022
Course Assistant   *New York, NY*

Columbia COMS1404: Emerging Scholars Program Seminar   September 2021 – May 2022
Workshop Assistant   *New York, NY*

Work Experience

Columbia Daily Spectator   October 2021 – May 2022
Data Journalist   *New York, NY*

Reported stories incorporating data analysis and visualization using Python, Adobe Illustrator, HTML, and CSS.

Service

Columbia University Women in Computer Science   August 2023 - May 2024
Academic Committee Co-Lead   *New York, NY*

Organized academic-related programming to support gender-diverse Columbia University computer science students, including workshops on course selection and lunches with female computer science professors. Hosted weekly coffee chats to provide students with advising on computer science internships, research, and courses.

Columbia University Application Development Initiative   October 2022 – December 2023
Mentor for Computer Science Mentorship Program   *New York, NY*

Supported 2 undergraduate computer science majors with one-on-one academic and preprofessional advising.

Columbia University Women in Computer Science   August 2022 - May 2023
Community Committee Chair   *New York, NY*

Organized activities focused on building a gender-diverse community of Columbia University computer science students, including an information session introducing the technical interview process, as well as social activities such as arts and crafts nights.

Skills

Technical: Python (PyTorch, Hugging Face Transformers, scikit-learn), C, Java, Git, LaTeX
Languages: Advanced Mandarin Chinese, advanced German, advanced Latin

Last updated: September 5, 2024