Eleanor M. Lin

734-249-4060 | elealin@umich.edu | emlinking.github.io

Education

University of Michigan, College of Engineering   August 2024 – Present
Doctor of Philosophy, Computer Science & Engineering (GPA: 4.0/4.0)   *Ann Arbor, MI*

National Tsing Hua University, College of Humanities and Social Sciences   June 2024 – August 2024
Taiwan Intensive Summer Language Program Student (GPA: 4.0/4.0)   *Hsinchu, TW*
Courses: Advanced Chinese Grammar, Reading, and Writing III; Advanced Chinese Speaking and Listening III

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

Refereed Publications

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

Run Chen, Haozhe Chen, Anushka Kulkarni, **Eleanor Lin**, Linda Pang, Divya Tadimeti, Jun Shin, and Julia Hirschberg. 2024. Detecting Empathy in Speech. *INTERSPEECH.* Kos, Greece. [Paper]

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. *Twenty-fourth International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing*. Washington, DC. Accepted as oral presentation. [Paper]

Thesis

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

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

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

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.

Fulbright-Hays Group Projects Abroad Fellowship, American Councils for International Education   2024
$7000 award to study Mandarin Chinese through the Taiwan Intensive Summer Language Program. Conducted post-program outreach: organized information session in partnership with Columbia University Undergraduate Global Engagement, presented study abroad opportunities to 27 students in 2 undergraduate Chinese language classes at the University of Michigan, authored blog post for American Councils' website.

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*

Identify the role of sociolinguistic factors in code-switching by building and analyzing large code-switched conversational speech corpus, using FFmpeg and Whisper ASR.

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*

Columbia SCNC1000: Frontiers of Science   September 2020 - December 2020
Frontiers of Science Ambassador   *Virtual*

Professional 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.

Extracurricular and Volunteer Experience

Café con Ling   December 2024 – Present
Mentor   *Virtual*

Mentor current undergraduates in the Columbia University Linguistics Program, through student-led mentoring program which provides by-appointment office hours.

University of Michigan College of Engineering   November 2024 – Present
Common Reading Experience Book Selection Committee Volunteer   *Ann Arbor, MI*

Review 2 books to facilitate the process of selecting a book for the University of Michigan College of Engineering's Common Reading Experience, which aims to foster community, non-technical skills, and curiosity among engineering students. Provide feedback via surveys and group discussion.

University of Michigan Language Resource Center   November 2024 – Present
Language Bank Program Volunteer   *Ann Arbor, MI*

Translate documents from English to Mandarin Chinese for University of Michigan departments/schools and external non-profit organizations.

University of Michigan Graduate Society of Women Engineers   August 2024 – Present
Outreach Volunteer   *Ann Arbor, MI*

Served on graduate school information panel sharing insights with undergraduates on applying to graduate school, finding undergraduate research opportunities, and developing mentoring relationships. Conducted K-12 outreach with Community Action Network by volunteering for museum visit serving children from under-resourced families in Washtenaw County.

University of Michigan Computer Science and Engineering Graduate Students   August 2024 – Present
Member   *Ann Arbor, MI*

Advised computer science PhD applicant by providing detailed feedback on application materials, as well as general advice about the application process, through the Student Application Support Program. Hosted Tea Time social hour to build community among graduate students.

Columbia College Alumni Association   October 2024 – December 2024
Odyssey Mentoring Program Mentor   *Virtual*

Mentored 1 Columbia College undergraduate through holistic discussion of academics, career paths, and personal goals.

University of Michigan Computer Science and Engineering Division October 2024 – November 2024
Building Bridges in CSE PhD Studies Volunteer *Ann Arbor, MI*

Conducted outreach to underrepresented undergraduates by delivering talk introducing my research and the U-M CSE graduate program at Florida International University. Hosted one-on-one coffee chats with prospective computer science graduate school applicants.

University of Michigan Computer Science and Engineering Division September 2024 – November 2024
EECS 110: Discover Computer Science Interview Volunteer *Ann Arbor, MI*

Volunteered to be interviewed by a current student in EECS 110: Discover Computer Science, a course designed to introduce underrepresented students to computer science. Provided student interviewer with perspectives on potential CS career paths, graduate school, research, and internships.

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: Mandarin Chinese (ACTFL Reading/Listening/Speaking Rating: Advanced), German, Latin

Last updated: January 6, 2025