Eleanor M. Lin

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Education

University of Michigan, College of Engineering — Ann Arbor, MI
Doctor of Philosophy, Computer Science & Engineering (GPA: 4.0/4.0) — *Expected May 2029*
Master of Science, Computer Science & Engineering — *Awarded September 2026*
Honors: National Science Foundation Graduate Research Fellow, Institutional Nominee for the Google PhD Fellowship Program
Relevant coursework: Advanced Artificial Intelligence, Causality & Machine Learning, Human-Computer Interaction

National Tsing Hua University, College of Humanities and Social Sciences — Hsinchu, TW
Taiwan Intensive Summer Language Program Student (GPA: 4.0/4.0) — *June 2024 – August 2024*
Transcript issued and credit awarded through Bryn Mawr College.

Columbia University, Columbia College — New York, NY
Bachelor of Arts, Computer Science & Linguistics (GPA: 4.1/4.0) — *September 2020 – May 2024*
Honors: *Summa cum Laude*, Junior Phi Beta Kappa, Dean's List, Departmental Honors in Linguistics, Computer Science Scholarship Award, Upsilon Pi Epsilon.
Relevant coursework: Natural Language Processing, Advanced Spoken Language Processing, Artificial Intelligence, Machine Learning, Linear Algebra, Calculus-Based Introduction to Statistics
Thesis: Developing Performant Models for Translating Spoken Taiwanese Into Spoken English Using Free and Publicly Available Resources. [Thesis]

Publications

Refereed Publications

Eleanor Lin and David Jurgens. 2025. Let's Think 一步一步: A Cognitive Framework for Characterizing Code-Switching in LLM Reasoning. *39th Conference on Neural Information Processing Systems (NeurIPS 2025) Workshop: First Workshop on CogInterp: Interpreting Cognition in Deep Learning Models*. San Diego, CA. [Blog post] [Paper]

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. *8th National Workshop for REU Research in Networking and Systems at the Twenty-fourth International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing*. Washington, DC. Accepted as oral presentation. [Paper]

Preprints

Eleanor Lin and David Jurgens. 2026. Think Multilingual, Not Harder: A Framework for Analyzing and Teaching Code-Switched Reasoning. *arXiv*. In submission. [Preprint]

Yusheng Zhou,* **Eleanor Lin**,* and David Jurgens. 2026. Lost in Translation: Measuring the Effect of Non-Native English on End User Performance of Large Language Models. *arXiv*. In submission. (*Equal contribution.) [Preprint]

News Articles

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

Presentations

University of Michigan Annual Data Science & AI Summit, Ann Arbor, MI, November 2025. **Eleanor Lin** and David Jurgens. "Let's Think 一步一步: A Cognitive Framework for Characterizing Code-Switching in LLM Reasoning." Poster presentation. [Blog post] [Poster]

University of Michigan Human-Centered AI (HCAI) Symposium, Ann Arbor, MI, October 2025. **Eleanor Lin** and David Jurgens. "Let's Think 一步一步: A Cognitive Framework for Characterizing Code-Switching in LLM Reasoning." Poster presentation. [Blog post] [Poster]

Michigan AI Symposium, Ann Arbor, MI, October 2025. **Eleanor Lin** and David Jurgens. "Let's Think 一步一步: A Cognitive Framework for Characterizing Code-Switching in LLM Reasoning." Poster presentation. [Blog post] [Poster]

NLP @ Michigan Day, Ann Arbor, MI, March 2025. **Eleanor Lin**. "Investigating Code-Switching as a Cognitive Tool in Large Language Model Reasoning." Poster presentation. [Poster]

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. [Abstract]

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

Candidate Rackham Graduate Student Research Grant ($3,000), University of Michigan 2026
Awarded to support research on AI-generated podcast audio.

At-Large Member, Sigma Xi 2026
Nominated for Full Membership in Sigma Xi, The Scientific Research Honor Society, based on research published in reputable scholarly venues.

Rackham Conference Travel Grant ($900), University of Michigan 2025
Awarded to cover the cost of travel for the NeurIPS 2025 conference.

Computer Science & Engineering Student Funding ($375), University of Michigan 2025
Awarded $375 to cover the cost of registration for the NeurIPS 2025 conference.

Institutional Nominee for the Google PhD Fellowship Program, University of Michigan 2025
One of up to 4 candidates from the University of Michigan selected through a competitive application process.

Graduate Research Fellowship ($159,000), National Science Foundation 2025

Institutional Nominee for the Google PhD Fellowship Program, University of Michigan 2025
One of up to 4 candidates from the University of Michigan selected through a competitive application process.

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 ($256), Columbia University Department of Computer Science 2024
One of two graduating B.A. candidates selected annually on the basis of "outstanding academic achievement in computer science."

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

Fulbright-Hays Group Projects Abroad Fellowship ($7,000), American Councils for International Education 2024
Awarded 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.

Study Abroad Need-Based Scholarship ($1,000), American Councils for International Education 2024

Study Abroad Diversity and Inclusion Scholarship ($1,000), American Councils for International Education 2024

Outstanding Undergraduate Researcher Award - Honorable Mention, Computing Research Association 2024

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 ($1,200), National Science Foundation 2023
Awarded to attend and orally present first-authored paper at MobiHoc '23 conference

NSF Research Experiences for Undergraduates Inter ($7,650), University of Southern California 2023

Distributed Research Experiences for Undergraduates Intern ($7,000), Computing Research Association 2022
Awarded to conduct research at the Rice University Vision, Language and Learning Lab with Professor Vicente Ordóñez-Román.

Critical Language Scholarship Alternate, U.S. Department of State 2022
Eligible for fully funded program to study Mandarin Chinese abroad, in case of finalists declining their awards.

Computer Science Research Mentorship Program Scholar, Google 2021

Research Experience

Blablablab, University of Michigan Ann Arbor, MI
NSF Graduate Student Research Fellow (Advisor: Professor David Jurgens) *August 2025 – Present*

Built pipeline for AI-generated podcast detection/source attribution: synthesized audio from 40 backends; curated 438k human podcast clips from 245k episodes; fine-tuned multitask classifier to 95% accuracy at detecting AI-generated audio; system attribution F1 score 0.84. Mentored undergraduate analyzing 350k prompts across three LLMs (including embedding-based retrieval of semantically matched prompts across different fluency levels) to identify response quality gap based on prompt fluency level. Collaborated with a PhD researcher to develop and test system for studying how information affects voters' understanding of ballot proposals.

Blablablab, University of Michigan Ann Arbor, MI
Graduate Student Research Assistant (Advisor: Professor David Jurgens) *August 2024 – August 2025*

Developed methods for improving multilingual LLM reasoning accuracy (by up to 13.6 percentage points on Global PIQA) using Python, PyTorch, vLLM, and LLaMA-Factory for synthetic data generation, LLM post-training, and evaluation, and R for regression analysis of reasoning behaviors, resulting in first-authored NeurIPS workshop paper and another first-authored conference paper in submission. Collected, cleaned, and extracted features from over 17.5k podcast episodes and 1.3k Wikipedia dump files using SQL, Whisper ASR, and language identification across 200+ languages, resulting in 57k-conversation dataset for downstream modeling. Designed and executed controlled experiments across 16 prompt configurations and 3 open-weight LLMs, applied regression analysis to isolate the effect of prompt design on annotation consistency, and translated results into deployment recommendations for practitioners.

Speech Lab, Columbia University New York, NY

Research Assistant (Advisor: Professor Julia Hirschberg) *January 2022 – May 2024*

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 Los Angeles, CA
REU Intern (Advisor: Professor Jonathan Gratch) *May 2023 – August 2023*

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 Houston, TX
Visiting Student Researcher (Advisor: Professor Vicente Ordóñez-Román) *May 2022 – July 2022*

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.

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

Reported stories incorporating data analysis and visualization using Python, Adobe Illustrator, HTML, and CSS. Recruited and trained reporters in data journalism. Communicated data analysis methods to non-technical editors. [Articles & graphics] [More articles & graphics]

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

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

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

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.

Invited Talks and Panels

"Advancing Technologies for a Multilingual World at the Michigan Artificial Intelligence Lab." Talk for Building Bridges in CSE PhD Studies Program. Florida International University, Miami, FL, 18 November 2024.

"RASwDA: Re-Aligned Switchboard Dialog Act Corpus for Dialog Act Prediction in Conversations." Talk for Professor Julia Hirschberg's course COMS 6998: Advanced Topics in Spoken Language Processing. Columbia University, New York, NY, 5 March 2024. [Paper] [Slides]

Media

Sarah Bryden, Tin Lau, Ben Parkhurst, and Meredith Landman. 2025. Alumna Spotlight: Meet Eleanor Lin (CC '24). *Columbia University Linguistics Program Blog*. [Blog post]

Teaching Experience

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

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

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

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

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

Advising and Mentoring

Sushrita Rakshit, B.S.E., Computer Science, College of Engineering (April 2025) University of Michigan
Application support for graduate school and fellowships/awards *September 2024 - October 2026*

Provided feedback on applications to graduate school, National Science Foundation Graduate Research Fellowship Program, and Computing Research Association Outstanding Undergraduate Researchers Award (received Honorable Mention). Next PhD in Computer Science at Johns Hopkins University.

Katie Vu, B.S.E., Computer Science, College of Engineering (May 2026) University of Michigan
NSF-GRFP Peer Mentor Network *October 2026*

Provided feedback on National Science Foundation Graduate Research Fellowship Program application.

Yusheng Zhou, B.S.E., Data Science, College of Engineering (May 2026) University of Michigan
Blablablab Research Mentoring *September 2025 – Present*

Co-first-authored conference paper in submission. Next Master of Science in Artificial Intelligence Engineering at Carnegie Mellon University.

Kevin Chou, B.S.E., Computer Engineering, College of Engineering (Expected May 2028) University of Michigan
Taiwanese American Student Association Big/Little Mentorship Program *October 2024 – April 2025*

Holistic Mentorship Program

Justine Choi, B.A., Linguistics and Anthropology, Columbia College (Expected May 2027) Columbia University
Café con Ling (Linguistics Mentorship Program) *February 2025 – March 2025*

Holistic Mentorship Program

Max Bauer, B.A., Classics and Linguistics, Columbia College (Expected May 2026) Columbia University
Odyssey Mentoring Program *October 2024 – December 2024*

Holistic Mentorship Program

Alexandra Jelihovschi, B.A., Computer Science, Columbia College (Expected May 2027) Columbia University
Application Development Initiative Computer Science Mentorship Program *October 2023 – December 2023*

Holistic Mentorship Program

Yookyeong Oh, Coursework toward B.A. (2022 – 2023), School of General Studies Columbia University
Women in Computer Science Mentorship Program (Holistic Mentorship) *February 2023 – April 2023*

Next Master of Science in Management at Stanford University Graduate School of Business

Inna Yuan, B.A., C. S.–Math and Linguistics, Columbia College (May 2025) Columbia University
Application Development Initiative Computer Science Mentorship Program *October 2022 – December 2022*

Holistic Mentorship Program

Leadership and Service

Mentoring

NSF-GRFP Peer Mentor Network Ann Arbor, MI
Mentor *September 2025 – Present*

Provide application feedback and participate in outreach events to current University of Michigan students applying

to the National Science Foundation's Graduate Research Fellowship Program.

Café con Ling Virtual
Mentor *December 2024 – Present*

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

Science Outreach and Communication

University of Michigan Artificial Intelligence Laboratory Ann Arbor, MI
AI Blog Editor *August 2025 – August 2026*

Created, edited, and proofread the Michigan AI blog, and encouraged blog contributions from graduate students in the Michigan AI Lab. [Blog]

Engaging Scientists in Policy and Advocacy Ann Arbor, MI
Secretary and Social Media Coordinator *July 2025 – June 2026*

Kept accurate records to ensure continuity of ESPA's institutional memory and continuously improve our initiatives. Ensured timely communication of relevant opportunities to members. Increased ESPA's public visibility, furthering our mission of fostering publicly engaged science and science communication. Fostered useful collaborations and connections between ESPA and aligned organizations/individuals via social media.

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

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.

Student Organizations

UMSI PhD Application Feedback Program Ann Arbor, MI
Volunteer *November 2026*

Provided feedback on application to UMSI PhD program from student with an underrepresented background.

The Michigan Daily Ann Arbor, MI
Correspondent *May 2025 – July 2025*

Authored two ∼2000-word ledes and one ∼1600-word secondary article for *The Statement*, the long-form magazine of *The Michigan Daily*. Conducted background research, interviewed sources, drafted articles, performed photography, and coordinated with editors. [Articles]

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

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 Ann Arbor, MI
Member *August 2024 – Present*

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.

Michigan Taiwanese Student Association Ann Arbor, MI
Volunteer *August 2024 – Present*

Build community among Taiwanese graduate students at the University of Michigan by assisting operations at monthly social events.

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

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

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.

Additional Service to the University

University of Michigan Artificial Intelligence Lab Ann Arbor, MI
Michigan AI Symposium Poster/Demo Session Co-Chair *June 2026 - October 2026*

Co-chaired poster/demo session: corresponded over email with the authors of approximately 100 submissions; designed and awarded 6 prizes based on public voting system; coordinated room bookings and poster board/easel setup with ∼15-person organizing team; promoted event by sending 100+ personalized email invitations to faculty nationwide; operated registration/check-in desk for 300+ attendees on the day of the event.

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

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

University of Michigan College of Engineering Ann Arbor, MI
Common Reading Experience Book Selection Committee Volunteer *November 2024 – January 2025*

Reviewed 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. Provided feedback via surveys and group discussion.

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

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.

Skills

• **Programming languages:** Python (PyTorch, vLLM, LLaMA-Factory, scikit-learn, Pandas, NumPy, Transformers), R, C, Java, SQL, JavaScript
• **Machine learning:** Transformers and sequence modeling, LLM post-training, unsupervised learning, multimodal learning, causal ML
• **Research methods:** Controlled experimental design, regressions, hypothesis testing, surveys, user testing, agent-based models, interviewing
• **Tools and platforms:** LaTeX, Git, Jupyter, OpenAI API, Praat, FFmpeg, Qualtrics, HTML, CSS, Flask, Google Cloud, AWS, Microsoft Azure
• **Languages:** Mandarin Chinese (ACTFL Reading/Listening/Speaking Rating: Advanced), German (Advanced; Gold Award on Level 1 National German Exam), Latin (Advanced; Gold Medal on Level 3/4 National Latin Exam)