Eleanor M. Lin

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Education

Columbia University, Columbia College, New York, NY September 2020 – May 2024
Bachelor of Arts, Computer Science & Linguistics; GPA: 4.1/4.0
Relevant Coursework: Machine Learning, Natural Language Processing, Artificial Intelligence, Syntax

Publications

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.* Association for Computing Machinery, New York, NY, USA, 545–550. https://doi.org/10.1145/3565287.3617637.

Presentations

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).

Grants, Awards, and Academic Honors

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

REU Travel Grant, National Science Foundation 2023
Awarded $1200 to attend and orally present first-authored paper at MobiHoc '23 conference

Dean's List, Columbia College 2020 – 2023

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

Fulbright-Hays Scholarship (Declined), American Councils for International Education 2023
Awarded $7915 to cover cost of attendance for Taiwan Intensive Summer Language Program

Distributed Research Experiences for Undergraduates Intern, Computing Research Association 2022
Awarded $7000 to conduct research at Rice University with Professor Vicente Ordóñez-Román

Computer Science Research Mentorship Program Scholar, Google 2021

Research Experience

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

Investigate 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. Co-authored forthcoming workshop paper submission.

Affective Computing Lab, University of Southern California May 2023 – August 2023
REU Intern (Adviser: 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 on paper accepted for oral presentation at 8th National Workshop for REU Research in Networking and Systems at MobiHoc 2023.

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

Quantified visual and linguistic complexity in MSCOCO image captioning dataset by creating and applying novel visual complexity metric, then fine-tuning BERT to predict visual complexity from image captions. Probed and mitigated content-related biases in resulting models. Presented poster at Columbia University's 2022 Undergraduate Research Symposium.

Natural Language Text Processing Lab, Columbia University October 2021 – December 2021
Data Annotator (Superviser: 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 (Adviser: 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 LING4903: Syntax September 2023 – December 2023
Teaching Assistant *New York, NY*

Introduction to modern formal theories of syntax. Hold office hours, take attendance, and grade assignments.

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

Introduction to linear algebra and its applications to mathematical modeling with Python. Hosted weekly office hours, moderated class discussion board, proofread and graded homework assignments, and proctored final exam.

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

Facilitated introductory computer science seminar to increase retention of diverse undergraduates. Moderated discussions, took attendance, hosted weekly office hours, and designed and circulated weekly newsletters.

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. Recruited and trained reporters in data journalism. Communicated data analysis methods to non-technical editors.

Service

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

Currently supporting a Columbia University first-year undergraduate (and previously supported a second-year undergraduate) majoring in computer science with one-on-one academic and preprofessional advising.

Activities

Quarto Magazine November 2021 – Present
Contributor *New York, NY*

Published four poems (with a fifth forthcoming) in the official undergraduate literary magazine of Columbia University's Creative Writing Department.

Skills

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