YULING GU

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EDUCATION

Master of Science

University of Washington, Seattle, WA, USA

📅 September 2020 – March 2022

- Master's in Electrical and Computer Engineering (Cumulative GPA: 4.00/4.00)
- Relevant Coursework: Statistical Learning, Continuous-Space Language Processing, Syntax For Computational Linguistics, Computational Cognitive And Neural Modeling, Neural Computation And Engineering, Probability and Random Processes, Mathematical Foundations of Systems Theory

Bachelor of Arts, *summa cum laude*

New York University, New York, NY, USA

📅 August 2016 - May 2020

- Bachelor of Arts, *summa cum laude* (Cumulative GPA: 3.991/4.00)
- Double major: Computer Science with high honors, Language and Mind (Joint major in linguistics, psychology and philosophy); Minor: Mathematics
- Honors Thesis: "Towards detecting temporal relations implicitly conveyed in text"
  Advisor: Prof. Ernest Davis
- Relevant Coursework: Machine Learning for Language Understanding, Introduction to Machine Learning, Artificial Intelligence, Natural Language Processing, Theory of Computation, Numerical Computing, Operating Systems, Basic Algorithms, Computer Systems Organization, Data Structures, Discrete Mathematics, Linear Algebra, Calculus 3, Probability & Statistics, Statistics for The Behavioral Sciences, Sound and Language, Grammatical Analysis, Introduction to Semantics, Neural Bases of Language, Minds and Machines, Logic, Language and Mind, Perception, Cognition

RESEARCH EXPERIENCE

Predoctoral Young Investigator

Allen Institute for AI

📅 April 2022 – present   ● Seattle, WA

Supervised by Dr. Bhavana Dalvi and Dr. Peter Clark.
- Demonstrate the effectiveness of using "mental models" of situations for figurative language understanding (Winning system that achieved (joint) first place for Figurative Language Understanding Shared Task).
- More ongoing work coming...

Research intern

Allen Institute for AI

📅 Summer 2021 – Fall 2021   ● Seattle, WA

- Supervised by Dr. Bhavana Dalvi and Dr. Peter Clark. Propose an approach for building "mental models" of situations given in input text. Demonstrate how this technique enables language models to better understand and answer situation-based questions (improved task performance on various tasks such as ETHICS, CODAH, and Social IQA).

Undergraduate research assistant

New York University

📅 Summer 2018 – Spring 2020   ● New York, NY

- **Honors Thesis Project: Detecting temporal relations in text**
  (Spring 2019 - Spring 2020)
  Supervised by Prof. Ernest Davis. Use various classifiers, word and sentence representations, as well as linguistics theories to automatically detect temporal relations implicitly conveyed in texts (different levels: from single event description to multiple sentences); Culminated in honors thesis "Towards detecting temporal relations implicitly conveyed in text."

- **Can dependency parsing help event extraction in text?**
  (Fall 2019 - Spring 2020)
  Supervised by Prof. Ralph Grishman. Investigate the contribution of information from dependency parsing, Named Entity (NE) tagging, and Part Of Speech (POS) tagging in event extraction, beyond a baseline that uses pretrained BERT sentence representation.
- **Integrated Customization Environment for Information Extraction (ICE)**
  (Summer 2019)
  Supervised by Prof. Ralph Grishman. Experiment with different classifiers, together with grammatical linguistics insights, to automatically distinguish prepositional phrases as adjuncts or arguments (achieved 88% accurate prediction of the adjunct/argument distinction using linguistics theories alone).
- **Termolator: A terminology extraction system (Open source tool)**
  (Summer 2018 - Fall 2018)
  Supervised by Prof. Adam Meyers. Refine the English Termolator's distributional metrics; Further develop the Chinese Termolator; Integrate past 5 years' developments to unify the two systems (GitHub: my contributions integrated to full system on July 2020).
- **Independent study project: Commonsense Reasoning**
  (Summer 2018)
  Supervised by Prof. Ernest Davis. Look into English-Chinese Machine Translation failures; Design Winograd schemas and compile pronoun disambiguation problems; Toward Annotating Commonsense Inferences in Text (TACIT) annotation.

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Research intern

Institute for Infocomm Research, A*STAR

📅 Winter 2014 – Spring 2021　　　　　　　　　📍 Singapore, Singapore

- Characterizing Singaporean, American, and British English acoustic and pronunciation patterns in children's speech using unsupervised clustering (supervised by Dr. Nancy F. Chen).
- Chinese tone perception in Singaporean and native Chinese Mandarin speakers; Investigating tone in whispered Mandarin (jointly supervised by Dr. Boon Pang Lim and Dr. Nancy F. Chen).

OTHER WORK EXPERIENCE

Grader

New York University

📅 Spring 2019, Fall 2019　　　　　　　　　📍 New York, NY

- Grader for Artificial Intelligence course at Courant Institute of Mathematical Sciences (CIMS) under Prof. Ernest Davis. (Fall 2019)
- Grader for Basic Algorithms course at Courant Institute of Mathematical Sciences (CIMS) under Prof. Victor Shoup. (Spring 2019)

PUBLICATIONS

- Bingchen Zhao*, **Yuling Gu***, Jessica Zosa Forde and Naomi Saphra (2022). "One Venue, Two Conferences: The Separation of Chinese and American Citation Networks". NeurIPS 2022 • AI Cultures Workshop.
- **Yuling Gu**, Yao Fu, Valentina Pyatkin, Ian Magnusson, Bhavana Dalvi and Peter Clark (2022). "Just-DREAM-about-it: Figurative Language Understanding with DREAM-FLUTE". EMNLP 2022 • The Third Workshop on Figurative Language Processing. (Joint first place for the Shared Task)
- **Yuling Gu**, Bhavana Dalvi and Peter Clark (2022). "DREAM: Improving Situational QA by First Elaborating the Situation". NAACL 2022.
- **Yuling Gu** (2021). "Transformer-based language models and complement coercion: Experimental studies". ACL-IJCNLP 2021 • UnImplicit: The First Workshop on Understanding Implicit and Underspecified Language.
- **Yuling Gu** and Nancy F. Chen (2020). "Characterization of Singaporean Children's English: Comparisons to American and British Counterparts using Archetypal Analysis". Interspeech 2020.
- **Yuling Gu** and Nancy F. Chen (2019). "Large-scale acoustic characterization of mid-low vowels across American, British, and Singaporean children". *The Journal of Acoustical Society of America, Volume 146, Issue 4*. 178th Meeting of the Acoustical Society of America.
- **Yuling Gu** and Nancy F. Chen (2019). "Acoustic characterization of Singaporean children's English with American and British counterparts: A case study on approximants". *The Journal of Acoustical Society of America, Volume 146, Issue 4*. 178th Meeting of the Acoustical Society of America.

- **Yuling Gu** and Nancy F. Chen (2019). "Acoustic Characterization of Singaporean Children's English: Comparisons to American and British Counterparts". ACL 2019 • Widening NLP workshop.
- **Yuling Gu**, Boon Pang Lim and Nancy F. Chen (2016). "Perception of tone in whispered Mandarin sentences: the case for Singapore Mandarin". Interspeech 2016.

AWARDS/HONORS

University of Washington
- The Graduate School Top Scholar Research Assistantship Award (first year)

New York University
- Phi Beta Kappa Honor Society (2020)
- Faculty Memorial Award (Dean's Award Spring 2020)
- Computer Science Prize for Academic Excellence in the Honors Program (Dean's Award Spring 2020)
- University Honors Scholar (Spring 2020)
- Four time recipient of Dean's Undergraduate Research Fund (Spring 2018 Individual Research Grant, Spring 2019 Individual Research Grant & 2 Conference Grants)
- Bernice Nachman Marlowe Scholarship (Fall 2018 – Spring 2020)
- Steffi Berne Scholarship (Fall 2018 – Spring 2020)
- Dean's List for Academic Year (all 4 academic years)
- Presidential Honors Scholars (Fall 2017 – Spring 2020)
- Women In Science (WINS) Scholarship (Fall 2017 – Spring 2020)

External Grants
- Acoustical Society of America travel grant (for 178th Meeting)
- Widening NLP workshop at ACL travel grant (for ACL 2019)
- ISCA travel grant (for Interspeech 2016)

SERVICE

Reviewer for AAAI 2022, and Workshop on Figurative Language Processing at EMNLP 2022.

OTHER ACTIVITIES

Allen Institute for AI
- AI2 Hackathon (August 11-13, 2021; August 10-12, 2022)

New York University
- NYU CAS alumni-student debate. The Motion: "The Benefits of the Development of Artificial Intelligence Outweigh the Harms." (October 26, 2019)
- Represented NYU at 2019 Grace Hopper Celebration of Women in Computing in Orlando, FL, USA
- Women in Science visibility committee: liaison (Fall 2017 – Spring 2020)
- Presidential Honors Scholars Program (Fall 2017 – Spring 2020)
- League of Linguistics interest group (Fall 2017 – Spring 2020)
- Dean's Service Honors Corps (Fall 2017 – Spring 2020)
- Minority And Philosophy chapter (student organized interest group) (Spring 2017 – Spring 2020)