Bryan Li

CONTACT
INFORMATION

Email: b.li@columbia.edu   *Phone:* (949) 310-8713
Website: manestay.github.io

RESEARCH
INTERESTS

Robust methods for natural language processing, multilingual systems, low-resource machine learning, speech analysis, computational linguistics

EDUCATION

Columbia University, New York, NY

Master of Science, Computer Science   **Sep 2018 - May 2019**
- Cumulative GPA: 4.06/4.00

Bachelor of Arts, Computer Science   **Sep 2014 - May 2018**
- Concentrations in Linguistics, Economics
- Cumulative GPA: 3.77/4.00

RESEARCH
EXPERIENCE

Amazon, New York, NY

Applied Scientist Intern   **May 2019 - Aug 2019**
Working on a project in natural language processing for Amazon Web Services.
- Mentors: Prof. Kathleen McKeown, Faisal Ladhak

Columbia University, Spoken Language Processing Lab, New York, NY

Research Assistant   **Jan 2018 - Present**
Working on projects to build more natural-sounding text-to-speech systems. Developed machine learning pipeline to predict phrase break and pitch accent boundaries. Maintain and update speech corpora, in English and Mandarin, by extracting linguistic features using Stanford CoreNLP and NLTK.
- Advisor: Prof. Julia Hirschberg

Microsoft Research, Bellevue, WA

Research Intern   **Jun 2018 - Sep 2018**
Designed multi-modal sentiment analysis models for customer service calls. Performed model fusion on an acoustic model based on aggregated and frame-level features, and a language model based on back-off trigram smoothing.
- Mentors: Andreas Stolcke, Dimitrios Dimitriadis

UCLA, Language Processing Lab, Los Angeles, CA

Research Assistant   **Jun 2016 - Dec 2016**
Created application that indexes a dynamic corpus of conversational transcripts from National Public Radio and provides NLP search functionality. Integrated into research on the evolution of conversational English.
- Advisor: Prof. Jesse Harris

PUBLICATIONS

B. Li, A. Stolcke, D. Dimitriadis. *Acoustic and Lexical Sentiment Analysis for Customer Service Calls.* Lecture talk at IEEE-ICASSP 2019, Brighton, England. [Link]

IN-REVIEW AND
UNPUBLISHED
MANUSCRIPTS

R. Sloan, S. Akhtar, **B. Li**, R. Shrivastava, M. Werner, A. Gravano and J. Hirschberg. *Predicting Prosody from Text for Text-to-Speech Synthesis Using Coreference, Word Embeddings, and Syntactic Features.* Interspeech 2019 (in review).

B. Li, X. Wang, H. Beigi. *Improving Cantonese Automatic Speech Recognition Using Transfer Learning from Mandarin.* EMNLP 2019, Workshop on Deep Learning for Low-Resource NLP (to be submitted).

B. Li, Z. Xia, D. Tang, R. Sloan, J. Hirschberg. *Mandarin Chinese Prosody Prediction from Text.* SLT 2020 (to be submitted).

J. Lee, **B. Li**, K. Wagstaff, J. Yang. *Interpreting CNN Representations through Image Feature Arithmetic Visualization.* AAAI 2020 (to be submitted).

WORK EXPERIENCE **Columbia University, Department of Computer Science**, New York, NY

Head Teaching Assistant **Jan 2019 - May 2019**
TA for Computational Aspects of Robotics (COMS 4771). Design and present recitations, hold weekly office hours, grade homework and exams.
• Instructor: Tony Dear

Teaching Assistant **Sep 2016 - Dec 2018**
Artificial Intelligence (Fall 2018)
Natural Language Processing (Spring 2018)
Computational Aspects of Robotics (Fall 2017)
Computer Science Theory (Summer 2017)
Discrete Mathematics (Fall 2016)

Bank of America, New York, NY

Summer Technology Analyst **May 2017 - Aug 2017**
Developed API and framework that allows traders to assess potential impact on credit risk for various scenarios in Python. Wrote Wiki-style technical documentation for project architecture, filled with diagrams and examples.

HONORS AND AWARDS
Course Assistant Fellowship, Spring 2019

Course Assistant Fellowship, Fall 2018

Dean's List, Fall 2014 - Spring 2018 (all semesters)

RELEVANT COURSEWORK
Computer Science: Natural Language Processing, Artificial Intelligence, Deep Learning, Machine Learning, Security in ML Systems, Speech Recognition, Computer Vision, Programming Languages, Computational Robotics

Linguistics: Syntax, Phonetics and Phonology, Language Documentation, Historical Linguistics, Classical Chinese III

SKILLS
Programming: Python, Java, Ruby, OCaml, C++, Swift
Technologies: PyTorch, Tensorflow, Kaldi, CoreNLP, Praat, Unix, Git
Languages: English, Mandarin Chinese, French

EXTRACURRICULAR ACTIVITIES
Columbia Pops: Violinist, Secretary
Asian Pacific American Heritage Month: President, Event Chair
Application Development Initiative: Software Developer