Hang **Jiang**

Machine Learning · Natural Language Processing · Software Engineering · AI for Social Good

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Education

Massachusetts Institute of Technology — *Cambridge, Massachusetts*

M.S./Ph.D in Media Arts and Sciences, focus on **ML/NLP** and **Computational Social Science**, MIT Media Lab — *Sept. 2020 - Present*

- *Research Assistant* at Lab for Social Machines (LSM), MIT Media Lab, supervised by Prof. Deb Roy
- Collaborated with Prof. Jacob Andreas at MIT Computer Science & Artificial Intelligence Laboratory (CSAIL) on neuro-symbolic reasoning

Stanford University — *Palo Alto, California*

M.S. in Symbolic Systems, focus on **AI** and **Cognitive Science**. **GPA: 4.04/4.00** — *Sept. 2018 - Sept. 2020*

- *Research Assistant*: Stanford NLP Group (Christopher Manning), Stanford LangCog Lab (Michael Frank), Stanford ML Group (Andrew Ng)
- *Teaching Assistant*: CS 145: Data Management and Data Systems (Shiva Shivakumar), CS 224N: Natural Language Processing in Deep Learning (Christopher Manning), and CS 384: Ethical and Social Issues in Natural Language Processing (Dan Jurafsky)
- Won the best poster award for the CS224N default project division (1 out of 98 teams) as **ranked #1** on the leaderboard [report, poster]

Emory University — *Atlanta, Georgia*

B.S. in Computer Science and B.A in Linguistics. **Summa Cum Laude** — *Aug. 2014 - May. 2018*

- *Research Assistant*: Emory NLP Lab (Jinho D. Choi) and Emory PC-ACE Lab (Roberto Franzosi); Thesis won the highest honors

Experience

IBM Research, Scalable Knowledge Intelligence — *San Jose, CA*

Research Intern. *Supervisor: Lucian Popa, Yunyao Li* — *Jun. 2020 - Aug. 2020*

- Designed and implemented a neuro-symbolic learning framework for entity linking based on Logical Neural Networks
- Showed strong interpretability and outperformed the state-of-art baseline models; working on a submission to ACL

Apple Inc., NLP Technologies Team — *Cupertino, CA*

Machine Learning Engineering Intern. *Supervisor: Bing Zhao, Vivek Kumar Rangarajan Sridhar* — *Jun. 2019 - Sept. 2019*

- Implemented state-of-art text summarization models based on LSTM and Transformer and created an IOS app demo for email summary
- Contributed to Montreal, the internal Natural Language Framework that supports Core ML Framework for model inference on device

Educational Testing Service (ETS), Speech and NLP Team — *Princeton, NJ*

Natural Language Processing (NLP) Intern. *Supervisors: Martin Chodorow, Nitin Madnani, Aoife Cahill* — *Jun. 2018 - Aug. 2018*

- Built a new automatic *Grammar Error Detection* system, including preposition error detection and native language identification
- Improved recall rate by **10%** and assisted ETS grading engine E-rater in grading GRE and TOEFL essays *(Tensorflow, Python, SKLL, NLTK)*

Carnegie Mellon University, Language Technologies Institute (LTI) — *Pittsburgh, PA*

Summer Research Intern. *Supervisor: Brian MacWhinney* — *Jun. 2017 - Aug. 2017*

- Developed an intelligent English tutor *Funetics* in *Nodejs, Express, MongoDB and jQuery* to grade speech and provide customized feedback
- Built and optimized automatic speech recognition (ASR) models based on *Bidirectional LSTM* to analyze selected speech from AphasiaBank

Publications

- Yuhao Zhang; **Hang Jiang**; Yasuhide Miura; Christopher D. Manning; and Curtis P. Langlotz. 2021. Contrastive Learning of Medical Visual Representations from Paired Images and Text . *International Conference on Learning Representations (ICLR)*. Under Review. [paper]
- Zhou, Sharon; Jiequan Zhang; **Hang Jiang**; Torbjörn Lundh; and Andrew Ng. 2020. Data Augmentation with Mobius Transformations. *Machine Learning: Science and Technology (MLST) 2020*. Under Review. [paper]
- **Jiang, Hang**; Michael C. Frank; Vivek Kulkarni; and Abdellah Fourtassi. 2020. Exploring Patterns of Stability and Change in Caregivers' Word Usage Across Early Childhood. *Cognitive Science*. Under Review. [paper, code]
- **Jiang, Hang**; Xianzhe Zhang; and Jinho D. Choi. 2020. Automatic Text-based Personality Recognition on Monologues and Multiparty Dialogues Using Attentive Networks and Contextual Embeddings. In *Proceedings of the 34th AAAI Conference on Artificial Intelligence: Student Abstract and Poster Program, of AAAI:SAP'20. New York, USA*. Spotlight Presentation. [paper, github, data]
- **Jiang, Hang***; Haoshen Hong*; Yuxing Chen*; and Vivek Kulkarni. 2019. DialectGram: Automatic Detection of Dialectal Changes with Multi-geographic Resolution Analysis. In *Proceedings of the Society for Computation in Linguistics. New Orleans: Linguistic Society of America.* Oral Presentation. [paper, github, data] (* = Equal Contribution)

Skills

Programming	Python, Java, C/C++, JavaScript, SQL, R, LaTeX, HTML, CSS, M68000 Assembly
Tools & Framework	PyTorch, Keras, Tensorflow, Scikit-Learn, Android, React, Git
Certificates	Natural Language Processing Nanodegree (Udacity), Deep Learning Specialization (Coursera)