

Shan Jiang | Curriculum Vitae

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Education

Northeastern University

Ph.D. in Computer Science

• Advisor: Christo Wilson

Boston, MA

Sep 2016 - 2021 (Expected)

Beijing University of Posts and Telecommunications

B.B.A. in Management Information Systems

• Rank: 1/46 · GPA: 92.5/100

Beijing, China

Sep 2012 - Jul 2016

Experience

Facebook

Ph.D. ML Intern @ Illicit Trade Team, Dangerous Content

Seattle, WA

Jun 2020 - Sep 2020

- Project: Weak supervision and multitask learning for detecting illicit trade content.
- Implemented weak supervision on multimodal models for illicit trade (e.g., prostitution, firearms, drugs) detection by utilizing existing labels and pre-trained models of auxiliary tasks (e.g., user reporting, nudity classifier) for multitask learning.
- Proposed and tested generalizable hypotheses on selecting and ordering auxiliary tasks for weakly supervising models in other problem areas, and shared experiments and results across Facebook's machine learning teams.
- **Productionized** 5K+ lines of code and improved the performance of production models by up to **2%**.

Google

Ph.D. SWE Intern @ Fact Check Team, Google AI

New York, NY

Jun 2019 - Aug 2019

- Project: ClaimReview markup (e.g., claim, claimant and verdict) extraction from fact-check articles.
- Explored several task formulation possibilities, e.g., language generation under encoder-decoder frameworks, and eventually formulated the task as a sequence tagging problem and conducted several experiments by modifying and fine-tuning BERT models.
- **Productionized** 5K+ lines of code with test files and technical documentation.
- Published a paper with additional data exploration and model comparison at [WWW'20](https://arxiv.org/abs/2006.08801).

Dataminr

Research Intern @ AI and Data Science Team

New York, NY

Feb 2019 - Apr 2019

- Project: Crisis sub-event (e.g., burning road after a wildfire) detection on social media for emergency management.
- Built a pipeline model that first scans the Twitter firehose and parses Tweets to dependency trees, then traverses to extract connected noun-verb pairs (e.g., home-burn, house-destroy), and finally clusters similar pairs as sub-events.
- Case-studied California wildfires to understand the temporal cascading (e.g., fire→smoke→pollution) of sub-event networks.
- Published a paper at the AI for social good workshop, i.e., [AISG'19@ICML](https://arxiv.org/abs/1905.08801).

Northeastern University

Research and Teaching Assistant @ Khoury College of Computer Sciences

Boston, MA

Sep 2016 - Present

- Research areas: computational journalism, computational social science, algorithm auditing, information quality.
- Collected and analyzed TB-sized social media and search engine data under the Spark/Hadoop framework.
- Applied statistical (e.g., regression) and causal (e.g., propensity score matching) models for hypothesis testing.
- Leveraged empirical observations to build natural language processing and machine learning pipelines to identify misinformation and linguistic bias in human-generated content (e.g., news, comments), particularly under algorithmic curation (e.g., ranking, personalization).
- **Award-winning** publications at top web (e.g., [WWW'18/19](https://arxiv.org/abs/1811.08801), [ICWSM'19/20](https://arxiv.org/abs/1905.08801)), HCI (e.g., [CSCW'18](https://arxiv.org/abs/1811.08801)) and AI (e.g., [AAAI'20](https://arxiv.org/abs/1905.08801), [FAccT'19/21](https://arxiv.org/abs/1905.08801)) conferences.

National University of Singapore

Research Assistant @ School of Computing

Singapore

Dec 2015 - May 2016

- Project: Economic modeling of Bitcoin mining under risk aversion assumptions.

Beijing University of Posts and Telecommunications

Research Assistant @ Institute of Network Technology

Beijing, China

Oct 2013 - Dec 2015

- Project: Game-theoretic modeling of overlay networks and traffic engineering.
- Published papers at computer network and system conferences, e.g., [GlobeCom'15](https://arxiv.org/abs/1505.08801), [LCN'15](https://arxiv.org/abs/1505.08801), [ICPADS'14](https://arxiv.org/abs/1505.08801).

Skills

Programming Languages

Python, Java, Scala, C/C++, R, SQL, HTML/CSS, JavaScript, Bash

Tools & Platforms

Spark, Hadoop/HDFS, TensorFlow/Keras, PyTorch, Git, Linux

Deep Learning & NLP

Transformers/BERT, Seq2Seq, RNN/LSTM, Attention, Rationalization, Interpretability, Explainability

Statistics

Hypothesis Testing, Regression Analysis, Causal Inference

Publications

Building and Auditing Fair Algorithms: A Case Study in Candidate Screening Christo Wilson, Avijit Ghosh, Shan Jiang , Alan Mislove, Lewis Baker, Janelle Szary, Kelly Trindel and Frida Polli	FAccT'21 acceptance rate: 25%
From Dark to Light: The Many Shades of Sharing Misinformation Online Miriam Metzger, Andrew Flanagin, Paul Mena, Shan Jiang and Christo Wilson	MaC'21 journal paper
Modeling and Measuring Expressed (Dis)belief in (Mis)information Shan Jiang , Miriam Metzger, Andrew Flanagin and Christo Wilson	ICWSM'20 acceptance rate: 17%
Factoring Fact-Checks: Structured Information Extraction from Fact-Checking Articles Shan Jiang , Simon Baumgartner, Abe Ittycheriah and Cong Yu	WWW'20 acceptance rate: 19%
Reasoning about Political Bias in Content Moderation Shan Jiang , Ronald E Robertson and Christo Wilson	AAAI'20 invited paper: 100%
Bias Misperceived: The Role of Partisanship and Misinformation in YouTube Comment Moderation Shan Jiang , Ronald E Robertson and Christo Wilson	ICWSM'19 <i>outstanding analysis paper: 0.4%</i> acceptance rate: 21%
Crisis Sub-Events on Social Media: A Case Study of Wildfires Shan Jiang , William Groves, Sam Anzaroot and Alejandro Jaimes	AISG'19@ICML oral presentation: 18%
Auditing Autocomplete: Suggestion Networks and Recursive Algorithm Interrogation Ronald E Robertson, Shan Jiang , David Lazer and Christo Wilson	WebSci'19 acceptance rate: 24%
Auditing the Partisanship of Google Search Snippets Desheng Hu, Shan Jiang , Ronald E Robertson and Christo Wilson	WWW'19 acceptance rate: 18%
Who's the Guinea Pig? Investigating Online A/B/n Tests in-the-Wild Shan Jiang , John Martin and Christo Wilson	FAccT'19 acceptance rate: 24%
Linguistic Signals under Misinformation and Fact-Checking: Evidence from User Comments on Social Media Shan Jiang and Christo Wilson	CSCW'18 acceptance rate: 26%
Auditing Partisan Audience Bias within Google Search Ronald E Robertson, Shan Jiang , Kenneth Joseph, Lisa Friedland, David Lazer and Christo Wilson	CSCW'18 <i>honorable mention: 2.7%</i> acceptance rate: 26%
On Ridesharing Competition and Accessibility: Evidence from Uber, Lyft, and Taxi Shan Jiang , Le Chen, Alan Mislove and Christo Wilson	WWW'18 acceptance rate: 15%
Conflicts in Overlay Environments: Inefficient Equilibrium and Incentive Mechanism Jianxin Liao, Jun Gong, Shan Jiang , Tonghong Li and Jingyu Wang	KSII-TIIS'16 journal paper
Interactions of Overlays and Traffic Engineering: Equilibrium and Cooperation without Payment Shan Jiang , Jun Gong, Jingyu Wang, Jianxin Liao and Tonghong Li	GlobeCom'15 acceptance rate: 35%
Competitive Equilibrium and Stable Coalition in Overlay Environments Shan Jiang , Jianxin Liao, Jun Gong, Jingyu Wang and Tonghong Li	LCN'15 acceptance rate: 30%
Combination Feature for Image Retrieval in the Distributed Datacenter Di Yang, Jianxin Liao, Qi Qi, Jingyu Wang, Haifeng Sun and Shan Jiang	ICPADS'14 acceptance rate: 30%

Honors and Awards

Outstanding Analysis Paper	for the top analysis paper at ICWSM'19 (1/238)	2019
Honorable Mention	for top papers at CSCW'18 (30/1,106)	2018
Dean's Fellowship	for 1st-year Ph.D. students at Northeastern University	2016
National/1st-Class Scholarship	for top 1% students at Beijing University of Posts and Telecommunications	2013 - 2015

Service

Program Committee	AAAI, ICWSM, WebSci	2021
	ICWSM, WebSci	2020
	ASONAM (Multidisciplinary Track)	2019
Reviewer	AAAI, CSCW, ICWSM, WebSci	2021
	CHI, CSCW, ICWSM, WebSci	2020
	CHI, CSCW, ICWSM	2019
	CSCW, WWW	2018