

Weifan Jiang

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Research Interests

My research interest is broadly in computer systems, including computer networks and security. I am also passionate about applying machine learning to solve system-related problems.

Education

Harvard University

PH.D. IN COMPUTER SCIENCE.

Cambridge, MA

Aug. 2021 - present

- Advisor: Professor Minlan Yu.
- Concentration: computer systems/networks.

Columbia University

M.S. IN COMPUTER SCIENCE. GPA 4.00/4.00

New York, NY

Aug. 2019 - May 2021

- Advisors: Professor Suman Jana and Professor Ethan Katz-Bassett.
- Thesis: Benefitting Internet users with secure machine learning and Internet measurement techniques.

University of Washington, Seattle

B.S. IN COMPUTER SCIENCE; APPLIED AND COMPUTATIONAL MATHEMATICAL SCIENCES. GPA 3.75/4.00

Seattle, WA

Sep. 2015 - Jun. 2019

- Exchange student to the University of Western Australia through the international Research Training Program in Summer 2017.

Publications

CONFERENCE

Cost-Aware Robust Tree Ensembles for Security Applications

Yizheng Chen, Shiqi Wang, **Weifan Jiang**, Asaf Cidon, Suman Jana
30th USENIX Security Symposium (USENIX Security'21), 2021

Cloud Provider Connectivity in the Flat Internet

Todd Arnold, Jia He, **Weifan Jiang**, Matt Calder, Italo Cunha, Vasileios Giotsas, Ethan Katz-Bassett
20th ACM Internet Measurement Conference (IMC'20), 2020

Irrigation Detection by Car: Computer Vision and Sensing for the Detection and Geolocation of Irrigated and Non-irrigated Farmland

Weifan Jiang, Vivek Kumar, Nikhil Mehta, Jack Bott, Vijay Modi
10th IEEE Global Humanitarian Technology Conference (IEEE GHTC'20), 2020

WORKSHOP

Footprint and Performance of Large Cloud Networks

Jia He, **Weifan Jiang**, Ege Gürmeriçliler, Georgia Essig, Arpit Gupta, Matt Calder, Vasileios Giotsas, Italo Cunha, Ethan Katz-Bassett, Todd Arnold
10th Networking Networking Women Professional Development Workshop (N2Women'20), 2020, Runner-up for the Best Poster Award

Research Experience

Columbia University

GRADUATE RESEARCH ASSISTANT

New York, NY

Sept. 2019 - present

- **Systems and Networks Lab**: supervised by Professor Ethan Katz-Bassett. Worked on multiple projects that aim to measure different aspects of the Internet from end-user's perspective.
- **Security and Privacy Research Group**: supervised by Professor Suman Jana. Assisted in the development and evaluation of a robust machine learning classifier based on tree ensembles.
- **Quadracci Sustainable Engineering Lab**: supervised by Professor Vijay Modi. Focused on developing a software pipeline for a camera system based on stereovision, including data capturing, camera calibration and depth estimation.

University of Washington

Seattle, WA

UNDERGRADUATE RESEARCH ASSISTANT

Jan. 2018 - Apr. 2019

- **Center for Game Science:** supervised by Professor Zoran Popovic. Focused on data engineering and analysis of user activities in an online collaborative game. Also worked on a confidential project's feature extraction.
- **Washington Experimental Mathematics Lab:** supervised by Professor Christopher Hoffman. Focused on developing a mathematical model to quantitatively assess the level of gerrymandering for a precinct-level redistricting map.

University of Western Australia

Perth, AU

RESEARCH INTERN

Jul. 2017 - Aug. 2017

- **Optical+Biomedical Engineering Laboratory:** supervised by Professor David Sampson. Focused on comparing and evaluating various image processing techniques for medical scans produced by Optical Coherence Tomography.

Industrial Experience

Amazon Live

New York, NY

SOFTWARE ENGINEERING INTERN

May 2021 - present

Amazon Live

New York, NY

FULL-STACK SOFTWARE ENGINEERING INTERN

May 2020 - Aug. 2020

- Improved user experience of mobile app by allowing Amazon influencers to import products from their idea lists when setting up broadcasts.
- Implemented new backend endpoints and frontend UI changes to realize the feature; feature has been deployed for public usage.

Amazon Web Services

Seattle, WA

SOFTWARE ENGINEERING INTERN

Jun. 2019 - Aug. 2019

- Integrated team's functional testing framework to their standard deployment pipeline; fully automated testing process and optimized user experience.
- Ensured mandatory functional testing coverage for future releases of team's product; improved stability of team's releases.

Amazon Web Services

Seattle, WA

SOFTWARE ENGINEERING INTERN

Jun. 2018 - Aug. 2018

- Created a functional testing framework for team's product (an EC2 backend service that configures network settings for EC2 instances).
- Mocked communication protocols between EC2 backend services to test team's product independently; such tool was not available before.

Teaching/Mentoring Experience

Fall 2020 **Course Assistant**, CSOR 4231: Analysis of Algorithms I

Columbia

Spr. 2018 **Teaching Assistant**, CSE 331: Software Design and Implementation

UW

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UW

Fall 2017 **Student Mentor**, Academic Support Programs

UW

Fall 2017 **Workshop Leader**, Math 308: Linear Algebra

UW

Skills

Programming Python, Java, MATLAB, C/C++, SQL, R, Bash, Javascript

Technology Linux, AWS(EC2, EMR, S3), Google Cloud(Big Query, Compute Engine), SQL Server, Unity3D

Framework Pytorch, Scikit-learn, Xgboost, OpenCV, OpenSSL, React Native