

# Cheryl Flynn Brooks

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## PROFESSIONAL POSITIONS

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2017-present AT&T Labs - Research  
Principal Inventive Scientist

2014-17 AT&T Labs - Research  
Senior Inventive Scientist

2008-09 Liberty Mutual Insurance Company  
Actuarial Assistant

## EDUCATION

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2014 Ph.D., Statistics  
Leonard N. Stern School of Business, New York University  
**Dissertation:** Prediction for Data-Dependent Regularization and Consistent Biclustering  
Advisors: Clifford M. Hurvich, Patrick O. Perry, Jeffrey S. Simonoff

2012 M.Phil., Statistics  
Leonard N. Stern School of Business, New York University

2008 B.A., Honors Economics and Mathematics  
McGill University

## PUBLICATIONS

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2020 Flynn, C. and Perry, P. (2020). Profile Likelihood Biclustering. *Electronic Journal of Statistics*, 14(1): 731-768.

2018 Li, R., Jian, J., Ju, C., Flynn, C., Hsu, W., Wang, J., Wang, W., and Xu, T. (2018). Enhancing Response Generation Using Chat Flow Identification. *KDD Workshop on Conversational AI*.

2017 Xi, H., Machanavajjhala, A., Flynn, C., and Srivastava, D. (2017). Composing Differential Privacy and Secure Computation: A case study on scaling private record linkage. *In Proceedings of the ACM Conference on Computer and Communications Security*.

2017 Flynn, C., Hurvich, C., and Simonoff, J. (2017). On the Sensitivity of the Lasso to the Number of Predictor Variables. *Statistical Science*, 32(1): 88-105.

2016 Flynn, C., Shirley, K., and Wang, W. (2016). Deconstructing Domain Names to Reveal Latent Topics. *In Proceedings of the IEEE International Conference on Data Science and Advanced Analytics*.

2016 Flynn, C., Hurvich, C., and Simonoff, J. (2016). Discussion: Deterioration of performance of the lasso with many predictors. *Statistical Modelling*, 16(3): 212-216.

- 2013 Flynn, C., Hurvich, C., and Simonoff, J. (2013). Efficiency for Regularization Parameter Selection in Penalized Likelihood Estimation of Misspecified Models. *Journal of the American Statistical Association*, 108(503): 1031-1043.

## WORKING PAPERS

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- 2020 Farias, V., Brito, F., Flynn, C., Machado, J., Majumdar, S., and Srivastava, D. Local Dampening: Differential Privacy for Non-numeric Queries via Local Sensitivity. Submitted.
- 2020 Dodwell, E., Flynn, C., Krishnamurthy, B., Majumdar, S., and Mitra, R. System to Integrate Fairness Transparently: An Industry Approach.

## CONFERENCES AND PRESENTATIONS

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- 2019 “Detecting and Mitigating Bias in Targeted Advertising,” Industry Talk, AT&T Labs Graduate Student Symposium, New York, New York, November 22, 2019
- 2019 “Women in Data Science: a Small N Sample,” Invited Panel, Joint Statistical Meetings, Denver, Colorado, July 27-August 1, 2019
- 2019 “Detecting and Mitigating Bias in Targeted Advertising,” Meetup, NYC Women in Machine Learning and Data Science, New York, New York, March 26, 2019
- 2019 “AI Ethics and Fairness,” Featured Presentation, AT&T ML Fusion Symposium, Bedminster, New Jersey, February 11, 2019
- 2017 “Deconstructing Domain Names to Reveal Latent Topics,” Invited Session, ISBIS Conference, Yorktown Heights, New York, June 7-9, 2017
- 2017 “How May I Help You? Deep Learning Topic Identifier for Online Customer Care,” Featured Presentation, AT&T Software Symposium, Middletown, New Jersey, April 27, 2017
- 2016 “Big Data Research at AT&T Labs,” Concurrent Session, Women in Statistics and Data Science Conference, Charlotte, North Carolina, October 20-22, 2016
- 2016 “Deconstructing Domain Names to Reveal Latent Topics,” Paper Presentation, IEEE International Conference on Data Science and Advanced Analytics, Montreal, Quebec, October 17-19, 2016
- 2016 “Optimizing the Customer Experience Using Statistical Methods,” Topic Contributed Session, Joint Statistical Meetings, Chicago, Illinois, July 30-August 4, 2016
- 2016 “Composing Differential Privacy and Secure Multiparty Computation for Efficient Private Record linkage,” Poster Session, ICML Workshop on Theory and Practice of Differential Privacy, New York, New York, June 23, 2016
- 2016 “Big Data Applications at AT&T Labs,” Meetup, NYC Women in Machine Learning and Data Science Meetup, New York, New York, June 7, 2016
- 2014 “On the Sensitivity of the Lasso to the Number of Predictor Variables,” Invited Session, Data Mining in Business and Industry sponsored by ISBIS/SLDM, Research Triangle Park, North Carolina, June 9-11, 2014

- 2014      “Consistent Biclustering,” Poster Session, Women in Statistics Conference, Research Triangle Park, North Carolina, May 15-17, 2014
- 2013      “Profile-Likelihood Based Co-clustering,” Poster Session, SAMSI Program on Low-Dimensional Structure in High-dimensional Systems, Research Triangle Park, North Carolina, September 8-12, 2013
- 2013      “On the Sensitivity of the Lasso to the Number of Predictor Variables,” Contributed Session, Joint Statistical Meetings, Montreal, Quebec, August 3-8, 2013
- 2012      “Consistent Biclustering” Contributed Session, Joint Statistical Meetings, San Diego, California, July 28-August 2, 2012
- 2011      “Asymptotically Efficient Regularization Parameter Selection in Penalized Regression and Small Sample Corrections,” Contributed Session, Joint Statistical Meetings, Miami, Florida, July 30-August 4, 2011

## **PATENTS**

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- 2017      System and Method for Artificial Intelligence Routing of Customer Service Interactions, Filed

## **MENTORSHIP**

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- 2017      AT&T Labs Summer Intern, Felix Grezes, CUNY
- 2017      AT&T Labs Summer Intern, Chris Hidey, Columbia University
- 2017      AT&T Labs Summer Intern, Pei Tao, Yale University

## **TEACHING EXPERIENCE**

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- 2013      Teaching Assistant, NYU, Fall 2013  
Undergraduate/MBA - Introduction to the Theory of Probability
- 2013      Instructor, NYU, Spring 2013  
Undergraduate - Statistics for Business Control
- 2010-13   Teaching Assistant, NYU, Fall 2010-13  
MBA - Statistics and Data Analysis
- 2010-13   Teaching Assistant, NYU, Fall and Spring 2010-13  
Executive MBA - Statistics and Data Analysis
- 2010      Teaching Assistant, NYU, Spring 2010  
Undergraduate - Life Contingencies

## AWARDS AND HONORS

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- 2019 AT&T Making a Difference Award  
Youth Technology Day
- 2017 AT&T Making a Difference Award  
AT&T Labs Graduate Student Symposium
- 2017 AT&T Making a Difference Award  
Network Effects Project
- 2017 AT&T Making a Difference Award  
Help Center Project
- 2016 Honorable Mention, Best Paper Award  
IEEE International Conference on Data Science and Advanced Analytics
- 2016 AT&T Making a Difference Award  
Proactive Care Project
- 2016 AT&T Making a Difference Award  
AT&T NYC Seminar Series
- 2014 Travel Award  
Women in Statistics Conference
- 2014 Herman E. Krooss Dissertation Award  
Leonard N. Stern School of Business, New York University
- 2013-14 Ernest Kurnow Fellowship  
Leonard N. Stern School of Business, New York University
- 2013 Travel Award  
SAMSI Workshop on Low-dimensional Structure in High-dimensional Systems
- 2008 Graduated with First Class Honors in Economics  
McGill University
- 2007-08 Golden Key International Honor Society

## PROFESSIONAL SERVICE

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- 2017-19 AT&T Labs Graduate Student Symposium, Co-organizer
- 2017-19 ASA Section on Statistical Computing, Council of Sections Representative
- 2017-18 ASA Section on Statistical Learning and Data Science, Student Paper Award Committee
- 2018 JSM 2018, Topic-Contributed Session Chair
- 2017 ISBIS 2017, Session Organizer
- 2015-17 AT&T NYC Seminar Series, Co-organizer

Referee: Biometrika  
Computational Statistics & Data Analysis  
Journal of Computational and Graphical Statistics  
Journal of the American Statistical Association  
Statistical Modelling: An International Journal  
Statistical Science

## **COMMUNITY OUTREACH**

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2020	ASA Undergraduate Virtual Career Fair, Resume Reviewer
2017-20	ASA DataFest at Vassar College, Judge and Consultant
2019	AT&T Labs Youth Technology Day, Data Science Workshop, Consultant
2018	R Forwards Coding Workshop for High School Girls, Consultant
2010-14	New York Cares, Volunteer and Team Leader
2008-09	Liberty Mutual Math Excellence Program, Mentor