NATÃ M. BARBOSA

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https://natabarbosa.com

EDUCATION

2016 – 2020 **University of Illinois at Urbana-Champaign**
Ph.D., Information Sciences
Advised by Prof. Yang Wang

2016 – 2019 **Syracuse University**
Master's (M.Phil), Information Science and Technology

2012 – 2015 **Católica de Santa Catarina**, Joinville, Brazil
B.S., Information Systems

PROFESSIONAL EXPERIENCE

Nov 2023 – Present **Netflix**, Senior Quantitative Researcher
Team: Consumer Insights - Ads

Jul 2021 – Oct 2023 **Google**, Senior Quantitative UX Researcher
Team: YouTube Ads

- Conducted foundational quantitative research to define core pillars of the ads user experience
- Planned and executed large-scale research to inform key areas of the ads user experience, including relevance, repetition, and trustworthiness
- Delivered key findings on tactical projects around new ad formats and emerging ad experiences
- Supported several measurement efforts, including in-product survey formats and new metrics
- Led off-platform program for high-fidelity experiments measuring user behaviors and attitudes

Mar 2021 – Jul 2021 **Facebook**, Quantitative UX Researcher, Washington, DC
Team: Privacy

- Conducted research on sentiment and efficiency of company-wide privacy processes and tools

Sep 2019 – Dec 2019 **Facebook**, Research Intern, Menlo Park, CA
Team: Privacy. Supervisor: Dr. Justin Hepler

- Quantitative research on user privacy concerns and behaviors on Facebook and Instagram

Jun 2019 – Sep 2019 **Airbnb**, Research Intern, San Francisco, CA
Team: Trust. Supervisor: Dr. Paolo Parigi

- Designed and evaluated explanatory and predictive models of trust between hosts and guests
- Conducted large-scale statistical analyses to measure impact of user identity verification
- Conducted user interviews on hosts' information needs on guest profiles

May 2018 – Aug 2018 **Figure Eight (fka CrowdFlower)**, Research Intern (HCI), San Francisco, CA
Team: Machine Learning. Supervisor: Dr. Monchu Chen

- Designed and evaluated a framework to address bias and ethics in machine learning labeling
- Designed a deep learning model to forecast changes in available worker's demographics
- Improved the sensor-fusion labeling tool for self-driving cars
- Improved object tracking algorithm for machine-assisted video labeling

May 2014 – Aug 2016 **Syracuse University**, Undergraduate Research Assistant, Syracuse, NY
Social Computing Systems Lab (SALT)

- Designed and evaluated authentication systems for users with visual impairments

Mar 2013 – Jun 2013 **Institute of Technical Education**, Research Intern, Singapore

- Innovation Lab: Designed and evaluated 3D virtual reality app for the floristry program

Jul 2010 – Mar 2013 **NeoGrid Software**, Software Engineer, Joinville, Brazil

- Led the upgrade of front-end stack used by 10-15 different web apps
- Developed front-end of cross-app Single-Sign-On authentication platform
- Designed print-friendly pages, user authorization, and recipe interpreter for PLM platform

PUBLICATIONS

13. Kaushik S., **Barbosa N.M.**, Yu Y., Sharma T., Kilhoffer Z., Seo J., Das S., Wang Y. (2023). GuardLens: Supporting Safer Online Browsing for People with Visual Impairments. *Nineteenth Symposium on Usable Privacy and Security.* (**SOUPS 2023**) *[22% acceptance rate]*

12. Lee H.P., Logas J., Yang S., Li Z., **Barbosa N.M.,** Wang Y., Das S. (2023). When and Why Do People Want Ad Targeting Explanations? Evidence from a Four-Week, Mixed-Methods Field Study. *2023 IEEE Symposium on Security and Privacy.* (**IEEE S&P 2023**)

11. **Barbosa, N. M.**, Hayes, J., Kaushik, S., & Wang, Y. (2022). "Every Website Is A Puzzle!": Facilitating Access to Common Website Features for People with Visual Impairments. *ACM Transactions on Accessible Computing.* (**TACCESS Vol. 15 #3, 2022**)

10. Mink, J., Luo, L., **Barbosa, N. M.**, Figueira, O., Wang, Y. & Wang, G. (2022). DeepPhish: Understanding User Trust Towards Artificially Generated Profiles in Online Social Networks. To Appear in *31st USENIX Security Symposium* (**USENIX Security 2022**)

9. **Barbosa, N. M.**, Gang, W., Ur, B., & Wang, Y. (2021). Who Am I? A Design Probe Exploring Real-Time Transparency About Online and Offline User Profiling Underlying Targeted Ads. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies.* (**IMWUT 2021 and UbiComp 2021**)

8. Zhang Z., Zhang Z., Yuan, H., **Barbosa, N.M**, Das, S. & Wang, Y. (2021). WebAlly: Making Visual Task-based CAPTCHAs Transferable for People with Visual Impairments. *Seventeenth Symposium on Usable Privacy and Security.* (**SOUPS 2021**) *[26% acceptance rate]*

7. **Barbosa, N. M.**, Zhang, Z., & Wang, Y. (2020). Do Privacy and Security Matter to Everyone? Quantifying and Clustering User-Centric Considerations About Smart Home Device Adoption. *Sixteenth Symposium on Usable Privacy and Security.* (**SOUPS 2020**) *[20% acceptance rate]*

6. **Barbosa, N. M.**, Sun, E., Antin, J., & Parigi, P. (2020). Designing for Trust: A Behavioral Framework for Sharing Economy Platforms. *The Web Conference.* (**WWW 2020**) *[19% acceptance rate]*

5. **Barbosa, N. M.**, Park, J., Yao, Y., & Wang, Y. (2019). "What if?" Predicting Individual Users' Smart Home Privacy Preferences and Their Changes. *Privacy Enhancing Technologies Symposium.* (**PETS 2019**) *[18% acceptance rate]*

4. **Barbosa, N. M.**, Chen, M. (2019). Rehumanized Crowdsourcing: A Labeling Framework Addressing Bias and Ethics in Machine Learning. *The 2019 SIGCHI Conference on Human Factors in Computing Systems.* (**CHI 2019**) *[24% acceptance rate]*

3. **Barbosa, N. M.**, Hayes, J., & Wang, Y. (2016). UniPass: Design and Evaluation of a Smart Device-Based Password Manager for Visually Impaired Users. *The 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing* (**UbiComp 2016**) *[23% acceptance rate]*

2. Huang, Y., Dobreski, B., Deo, B. B., Xin, J., **Barbosa, N. M.**, Wang, Y., & Bigham, J. P. (2015). CAN: Composable Accessibility Infrastructure via Data-Driven Crowdsourcing. *The 12th Web for All Conference* (**W4A 2015**) *[35% acceptance rate]*

1. **Barbosa, N. M.** (2014). Strategies: An Inclusive Authentication Framework. *The 16th International ACM SIGACCESS Conference on Computers & accessibility* (**ASSETS 2014**) [Student Research Competition]

PATENTS

2019 **[granted]** Intent-oriented Internet Browsing
Natã M. Barbosa, Yang Wang
U.S. patent application 16/686,811

2018 **[application]** Framework for adjusting contributor profile in collecting data labels
Natã M. Barbosa, Monchu Chen, Jennifer Prendki
U.S. patent application 16/245,121

2016 **[granted]** Website authentication using an internet-connected device
Natã M. Barbosa, Yang Wang
U.S. patent number 10,326,759

HONORS & AWARDS

2021 Berner-Nash Memorial Dissertation Award – UIUC iSchool
2021 Information Systems/Technologies Award – UIUC iSchool
2020 Facebook Privacy Preserving Technologies Research Award
2020 Facebook PhD Fellowship Finalist
2017 Summer Research Award, iSchool, Syracuse University ($6,500)
2014 Silver medal, Student Research Competition (ASSETS 2014)
2014 RvD IDEA Awards, $3,500 seed funding for travel app
2013 Science Without Borders Full Tuition Study Abroad Scholarship
2012 SENAI WorldSkills Full Tuition Undergraduate Scholarship
2011 Gold medal, WorldSkills London (Web Design)
2010 Gold medal, Olimpíada do Conhecimento National Competition (Web Design)
2009 Gold medal, Olimpíada do Conhecimento State Competition (Web Design)

TECHNICAL SKILLS

Programming Languages Proficient in Java, Python, R, JavaScript, ES6, and Swift. Experience with C++, C#, C and PHP.

Technologies Node.js; SQL; Hive; Presto; React; React Native; MongoDB; scikit-learn; Git; Docker; REST APIs; Keras; Spark; Jupyter; Pandas; Scipy; ggplot2; dplyr.

Areas of Expertise Human–Computer Interaction; User Studies; Data Science; Web stack; Security; Privacy; Machine Learning; Authentication; Crowdsourcing; Experiment Design; Accessibility; Mobile App Development.

PROJECTS & ACTIVITIES

Software Projects (Core Contributor)

2020 Whoami: iOS, Android, and browser extension for profiling transparency
2019 GuardLens: A browser extension for website security-related information
2019 Machine learning models to predict privacy preferences in the smart home
2018 Crowdsourcing labeling framework addressing bias and ethics in machine learning
2018 Evaluation of Convolutional Neural Networks for web page screenshot classification
2017 CrowdIntent: A system for task-oriented browsing powered by machine learning
2017 Inconspicuous and implicit smartphone authentication for visually impaired users
2017 Network analysis of app permissions on Google Play
2016 Classification of authentication-related hyperlinks on the web
2016 Elefante Letrado, a reading platform for young students on iOS
2016 Multimodal mobile device pairing for visually impaired users
2015 UniPass: A smart device-based password manager
2015 ParkAmigo: A mobile app for parking based on driveway sharing
2014 196sense: A mobile app for personalized travel tips

Activities

2015 Hackathon organizer: WorldSkills Digital Challenge 2015
2014 Student startup incubator, Syracuse Student Sandbox
2014 Spring Break in Silicon Valley Immersion Trip, School of Information Studies, SU

INVITED TALKS & PRESENTATIONS

2020 Security and Privacy Research at Illinois Computer Science (SPR@I)

2020 George Mason University (Information Sciences and Technology Department)
2020 Paper presentation: **SOUPS 2020**, Remote
2020 Paper presentation: **WWW 2020**, Remote
2020 Presentation at the Computation Workshop – **University of Chicago**, Chicago, IL
2019 Paper presentation: **PETS 2019**, Stockholm, Sweden (remote)
2019 Federal Trade Commission – **FTC PrivacyCon 2019**, Washington, DC
2019 Paper presentation: **CHI 2019**, Glasgow, UK
2018 Speaker: iSchool Graduate Seminar: Data Privacy and Protection, Syracuse, NY
2018 Workshop on Individual Differences in Privacy at **CHI 2018**, Montreal, Canada
2018 Poster: Federal Trade Commission – **FTC PrivacyCon 2018**, Washington, DC
2017 Poster: **Great Lakes Security Day**, Rochester, NY
2017 Workshop on Ubiquitous Text Interaction at **CHI 2017**, Denver, CO
2016 Speaker: IST 101, undergraduate research experience, Syracuse University
2016 Paper presentation: **UbiComp 2016**, Heidelberg, Germany
2014 Poster presentation: Student research competition at **ASSETS 2014**, Rochester, NY
2014 Speaker: United Nations ECOSOC panel on youth empowerment, New York
2012 Workshop instructor: National Web design competition, Bogota, Colombia

SERVICE & VOLUNTEERING

2020 Reviewer, **IMWUT (UbiComp 2021)**
2019 Workshop co-organizer: 4th Workshop on Inclusive Privacy and Security@**SOUPS**
2019-2017 Reviewer, ACM Conference on Human Factors in Computer Systems (**CHI**)
2018 Hackathon Judge: **IBM Call for Code** Syracuse
2018 Student Service: iSchool's Personnel Committee 2018-2019
2018 Reviewer, International Conference on Information Systems (**ICIS 2018**)
2018, 2017 Reviewer, Symposium on Usable Privacy and Security (**SOUPS**)
2017 Student Service: iSchool's Doctoral Committee 2017-2018
2017 Reviewer, ACM Conference on Supporting Group Work (**Group 2018**)
2017 Reviewer, Hawaii International Conference on System Sciences (**HICSS 2018**)
2017 Reviewer, ACM Conference on Computer-Supported Cooperative Work and Social Computing (**CSCW 2018**)
2017 Reviewer, International Conference on Human–Computer Interaction with Mobile Devices and Services (**MobileHCI 2017**)
2017, 2016 External reviewer, **iConference**
2014 Program committee, Web for All Conference (**W4A 2014**)
2014 Youth forum moderator, Champions Forum, Lucerne, Switzerland
2013 Social media assistant, WorldSkills Leipzig 2013

TEACHING EXPERIENCE

Spring 2020 Mobile App Development in IS590 HCS: Human-Centered Information Systems
Fall 2018 Design of exercises on statistical inference (IST 777 – Statistical Methods)
Spring 2018 Lectures on User Evaluation (IST 649 – Human Interaction with Computers)
Fall 2017 Syllabus design for Privacy Policy, Law, and Tech. course (IST 800)
Spring 2017 Designed a lecture about privacy in ubiquitous computing (course design)
Fall 2016 Lecture on Triggers, Functions, and Stored Procedures (IST 659)
Fall 2015 Introduction to programming and robotics for high school students
2012 - 2015 Mentoring competitors for international web development competitions