

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

- July 2021 – Present **Google**, Quantitative UX Researcher
Team: YouTube Ads
- March 2021 – July 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

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. To Appear in *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. & Y. Wang (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 **[application]** Intent-oriented Internet Browsing
Natá M. Barbosa, Yang Wang
U.S. patent application 16/686,811
- 2018 **[application]** Framework for adjusting contributor profile in collecting data labels
Natá M. Barbosa, Monchu Chen, Jennifer Prendki
U.S. patent application 16/245,121
- 2016 **[granted]** Website authentication using an internet-connected device
Natá 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