

EDUCATION

- 2016 - Present **Syracuse University (SU)**, Syracuse, NY
Ph.D., Information Science and Technology (IST)
Research areas: Human–Computer Interaction; Privacy; Security; Ubiquitous Computing; Accessibility; Machine Learning.
Advisor: Prof. Yang Wang
- 2012 - 2015 **Catholic University**, Santa Catarina, Joinville, Brazil
B.S., Information Systems
Exchange student at Syracuse University (2013-2014)
GPA: 9.37/10

RESEARCH & WORK EXPERIENCE

- May 2018 – Aug 2018 **Machine Learning Intern**, Figure Eight (former CrowdFlower), San Francisco, CA
- *Human–Computer Interaction research in the Machine Learning team*
- May 2017 – Aug 2017 **Research Intern**, Syracuse University, Syracuse, NY
Social Computing Systems Lab (SALT), Prof. Yang Wang
- *Designed a web browsing system for visually impaired users powered by machine learning and crowdsourcing*
 - *Conducted machine learning experiments with supervised learning*
 - *Conducted online crowdsourcing experiments and designed user studies*
 - *Conducted user study sessions*
- Aug 2016 – Present **Graduate Research Assistant**, Syracuse University, Syracuse, NY
Social Computing Systems Lab (SALT)
- *Designing and evaluating People-Nearby Applications (Prof. Yun Huang)*
 - *Designing and evaluating data-driven privacy mechanisms (Prof. Yang Wang)*
- May 2014 – Aug 2016 **Undergraduate Research Assistant**, Syracuse University, Syracuse, NY
Social Computing Systems Lab (SALT)
- *Designed and evaluated ubiquitous computing authentication systems for visually impaired users*
- Mar 2013 – Jun 2013 **User Experience Research Intern**, ITE Innovation Lab, Singapore
- *Designed and evaluated 3D virtual reality app for the floristry program*
- Feb 2011 – Mar 2013 **Software Engineer**, NeoGrid Software, Joinville, Brazil
- *Led the upgrade of front-end stack used by 10-15 apps*
 - *Developed cross-app Single-Sign-On authentication*
 - *Designed core system features such as print-friendly pages, user authorization, and recipe interpreter for PLM platform*

TECHNICAL SKILLS

- Programming Languages** Proficient in Java, JavaScript, ES6, R, Python, and Swift. Experience with C#, C++, PHP, and C.
- Technologies** HTML5; Web APIs; SQL; MongoDB; Android Studio; XCode; Node.js; scikit-learn; Git; Docker; REST APIs; Keras; Apache Spark;
- Areas of Expertise** Human–Computer Interaction; User Studies; Web stack; Security; Privacy; Authentication; Experiment Design; Accessibility; Mobile Development; Machine Learning.

PATENT APPLICATIONS

- 2016 Website authentication using an internet-connected device
Natã M. Barbosa, Yang Wang
U.S. provisional patent application (PCT/US2016/025783)

PUBLICATIONS

Peer-reviewed Conferences

Barbosa, N. M., Hayes, J., & Wang, Y. (2016). UniPass: Design and Evaluation of a Smart Device-Based Password Manager for Visually Impaired Users. In *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016)*.

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. In *Proceedings of the 12th Web for All Conference (W4A 2015)*.

Barbosa, N. M. (2014). Strategies: An Inclusive Authentication Framework. In *Proceedings of the 16th International ACM SIGACCESS Conference on Computers & accessibility (ASSETS 2014)*.

Workshops

Barbosa, N. M. (2018) From Collectives to Individuals: A Data-Driven Approach to Personal Privacy. In *2018 SIGCHI Conference on Human Factors in Computing Systems*. (CHI 2018).

Barbosa, N. M. and Wang, Y. (2017). Designing Task-Oriented Text Commands for Screen Readers and Screen Magnifiers. In *2017 SIGCHI Conference on Human Factors in Computing Systems*. (CHI 2017).

Barbosa, N. M. and Wang, Y. (2016). Lessons Learned from Designing and Evaluating Smart Device-based Authentication for Visually Impaired Users. In *Twelfth Symposium on Usable Privacy and Security (SOUPS 2016)*.

INVITED TALKS & PRESENTATIONS

- 2018 Workshop on Individual Differences in Privacy at CHI 2018, Montreal, Canada
2018 Federal Trade Commission – PrivacyCon 2018, Washington, DC
2017 Poster presentation: Great Lakes Security Day, Rochester, NY
2017 Workshop on Ubiquitous Text Interaction at CHI 2017, Denver, CO
2016 IST 101, undergraduate research experience, Syracuse University
2016 Paper presentation, UbiComp 2016, Heidelberg, Germany
2014 Student research competition at ASSETS 2014, Rochester, NY
2014 United Nations ECOSOC panel on youth empowerment, New York
2012 Workshop speaker at web design competition, Bogota, Colombia

HONORS & AWARDS

- 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 (Web Design)
2009 Gold medal, Olimpíada do Conhecimento State (Web Design)

PROJECTS & ACTIVITIES

Software Projects (Core Contributor)

- 2018 Evaluation of Convolutional Neural Networks for web page screenshot classification
2017 CrowdIntent: a system for task-oriented browsing powered by machine learning
2017 Transparent 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 WebCommands, an intelligent personal assistant for 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 Program, School of Information Studies, SU

SERVICE & VOLUNTEERING

- 2018 Student Volunteer, ACM Conference on Human Factors in Computer Systems (CHI 2018)
- 2018 Reviewer, Symposium on Usable Privacy and Security (SOUPS 2018)
- 2017 Student Service: iSchool's Doctoral Committee 2017-2018
- 2017 Reviewer, ACM Conference on Human Factors in Computer Systems (CHI 2018)
- 2017 Reviewer, ACM Conference on Supporting Group Work (Group 2018)
- 2017 Reviewer, Hawaii International Conference on System Sciences (HICSS 2018)
- 2017 Reviewer, Symposium on Usable Privacy and Security (SOUPS 2017)
- 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 Reviewer, ACM Conference on Human Factors in Computer Systems (CHI 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 2018 Lectures on User Evaluation (IST 649 – Human Interaction with Computers)
- Fall 2017 Designed lecture and Syllabus 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 Mentor of competitors in international web development competitions

RELEVANT COURSEWORK

- PSY 756 Statistics & Research Design II
- IST 800 Privacy Policy, Law, and Technology
- CIS 731 Artificial Neural Networks
- CSE 674 Advanced Data Structures and Algorithms
- CIS 700 Machine Learning Methods in Security
- IST 800 Social Network Theory and Analysis
- IST 664 Natural Language Processing
- IST 777 Statistical Methods