

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 of Santa Catarina**, Joinville, Brazil
B.S., Information Systems
Exchange student at Syracuse University (2013-2014)
GPA: 9.37/10

RESEARCH & WORK EXPERIENCE

- Aug 2016 – Present **Graduate Research Assistant**
Social Computing Systems Lab (SALT)
Syracuse University, Syracuse, NY
Designing and evaluating local community systems (with Prof. Yun Huang)
- Summer 2017 **Research Intern**
Social Computing Systems Lab (SALT), Prof. Yang Wang
Syracuse University, Syracuse, NY
- *Designed a web browsing system for visually impaired users powered by machine learning and crowdsourcing*
- *Conducted machine learning experiments with supervised learning models*
- *Conducted crowdsourcing experiments and designed user studies*
- May 2014 – Aug 2016 **Undergraduate Research Assistant**
Social Computing Systems Lab (SALT)
Syracuse University, Syracuse, NY
Designed and evaluated ubiquitous computing authentication systems for visually impaired users
- Mar 2013 – Jun 2013 **Software Engineering Intern**
Innovation Lab, Institute of Technical Education, Singapore
Designed 3D virtual reality app for the vocational 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*

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. 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)*.

TECHNICAL SKILLS

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

Technologies HTML5; Web APIs; SQL; MongoDB; Android Studio; XCode; Node.js; scikit-learn; Git; Docker; REST APIs.

Areas of Expertise Human-Computer Interaction; Web stack; Security; Privacy; Authentication; Accessibility; Mobile Development; Machine Learning.

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)

PATENT APPLICATIONS

- 2016 Website authentication using an internet-connected device
Natã M. Barbosa, Yang Wang
U.S. provisional patent application (WO2016161398)

PROJECTS & ACTIVITIES

Software Projects (Core Contributor)

- 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

- 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

INVITED TALKS & PRESENTATIONS

- 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

COURSEWORK

- CIS731 Artificial Neural Networks
- CSE674 Advanced Data Structures and Algorithms
- CIS700 Machine Learning Methods in Security
- IST800 Social Network Theory and Analysis
- IST664 Natural Language Processing
- IST777 Statistical Methods

MEMBERSHIPS

- 2014 - Association for Computing Machinery (member)
- Present

TEACHING

- 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 to high school students
- 2012 - 2015 Mentor of international competitors in web development