

Nichola Lubold

Speech & Hearing Sciences
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EDUCATION

Arizona State University, Tempe, AZ
Ph.D., Computer Science Aug 2018

University of Notre Dame, Notre Dame, IN
B.S., Computer Engineering 2008

APPOINTMENTS AND WORK EXPERIENCE

Post-Doctoral Scholar: Arizona State University, S&HS Lab 2018 – Current

Applied machine learning techniques to understanding dysarthric speech and develop enhanced tools for clinicians

Research Assistant: Arizona State University, 2Sigma Lab 2014 – 2018

Designed and built four adaptive spoken dialogue systems for robotic learning companions. Planned, executed and analyzed evaluations.

Research Intern: Intuit, Data Science Lab 2016

Developed tools to enable analysts to utilize data science algorithms and analyzed opportunities for utilizing NLP to enhance software products

Research Assistant: Arizona State University, FACT Project 2014

Conducted experiments investigating intelligent tutoring system applications for assisting middle school and high school math teachers in the classroom.

Research Assistant: Arizona State University, NLP Lab 2013 – 2014

Analyzed automatic detection of common ground and rapport in spoken Language using the spoken language phenomenon of entrainment.

Program Manager: GE Capital Retail Bank, Governance 2010 – 2013

Managed cross-functional program and 15 high-budget projects focused on enhancing process excellence and meeting regulatory requirements

Information Technology Leadership Program, GE 2008 - 2010

Completed four 6-month rotations in project management and software engineering, including leading life-cycle management and platform integrations.

REFEREED JOURNAL ARTICLES

Stephanie Borrie, **Nichola Lubold**, and Heather Pon-Barry. "Disordered speech disrupts conversational entrainment: a study of acoustic-prosodic entrainment and communicative success in populations with communication challenges." *Frontiers in psychology*, 6, 2015.

REFEREED CONFERENCE AND WORKSHOP ARTICLES

Nichola Lubold, Erin Walker, Heather Pon-Barry, and Amy Ogan. "Automated Pitch Convergence Improves Learning in a Social, Teachable Robot for Middle School Mathematics." *International Conference on Artificial Intelligence in Education, AIED*. 2018. (25% acceptance rate).

Ishrat Ahmed, **Nichola Lubold**, and Erin Walker. "ROBIN: Using a Programmable Robot to provide Feedback and Encouragement on Programming Tasks." *International Conference on Artificial Intelligence in Education, AIED*. 2018. **Nominated for Best Student Poster**.

Nichola Lubold, Erin Walker, Heather Pon-Barry, Yuliana Flores, and Amy Ogan. "Using Iterative Design to Create Efficacy-Building Social Experiences with a Teachable Robot." *Proceedings of International Conference of the Learning Sciences, ICLS*. 2018. (32% acceptance rate).

Tricia Chaffey, Hyeji Kim, Emilia Nobrega, **Nichola Lubold**, and Heather Pon-Barry. "Dyadic Stance in Natural Language Communication with a Teachable Robot." In *HRI '18 Companion: 2018 ACM/IEEE International Conference on Human-Robot Interaction*, 2018.

Nichola Lubold. "Building Rapport through Dynamic Models of Acoustic-Prosodic Entrainment." *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. Doctoral Consortium. ACM, 2017.

Nichola Lubold, Heather Pon-Barry, and Erin Walker. "Perceptions of Social Behavior in a Voice-Adaptive Robotic Learning Companion." *ACM/IEEE International Conference on Human Robot Interaction (HRI)*. 2016. (24.8% acceptance rate).

Nichola Lubold, Heather Pon-Barry, and Erin Walker. "Naturalness and Rapport in a Pitch-Adaptive Learning Companion." In *Automatic Speech Recognition and Understanding (ASRU), 2015 IEEE Workshop*. IEEE. 2015. (47.8 % acceptance rate).

Nichola Lubold, Erin Walker, and Heather Pon-Barry. "Relating Entrainment, Grounding, and Topic of Discussion in Collaborative Learning Dialogues." In *Proceedings of the 11th International Conference on Computer Supported Collaborative Learning*, 2015. (36% acceptance rate).

Nichola Lubold and Heather Pon-Barry. "Acoustic-Prosodic Entrainment and Rapport in Collaborative-Learning Dialogues." In *Proceedings of the ICMI Workshop on Multimodal Learning Analytics*, 2014.

Nichola Lubold and Heather Pon-Barry. “A Comparison of Acoustic-Prosodic Entrainment in Face-to-Face and Remote Collaborative Learning Dialogues.” In *Proceedings of the IEEE Workshop on Spoken Language Technologies*, 2014. (48.6% acceptance rate). **Best Poster Presentation Award.**

Fred Morstatter, **Nichola Lubold**, Heather Pon-Barry, Jürgen Pfeffer, and Huan Liu. “Finding Eyewitness Tweets during Crises.” In *Proceedings of ACL Workshop on Language Technology and Computational Social Science*, 2014.

DISSERTATION

“Producing Acoustic-Prosodic Entrainment in a Robotic Learning Companion to Build Learner Rapport.” Arizona State University, 2018.

Committee: Erin Walker, Heather Pon-Barry, Kurt VanLehn, Diane Litman, Visar Berisha

FELLOWSHIPS & HONORS

Finalist, Adobe Research Fellowship	2017
NCWIT Collegiate Award, Honorable Mention	2016
Google Anita Borg Memorial Scholarship	2015
Grace Hopper Celebration Scholar	2015
National Science Foundation Graduate Research Fellowship, Honorable Mention	2015
Best Poster Presentation Award, IEEE Spoken Language Technology Workshop	2014
Dean’s Fellowship, Ira A. Fulton Schools of Engineering	2013
<i>4 year fellowship, awarded to 4% of all ASU doctoral students</i>	
Six Sigma GreenBelt, General Electric	2010
Upsilon Pi Epsilon Honor Society, University of Notre Dame	2008
Engineering Honors Program, University of Notre Dame	2008

TEACHING EXPERIENCE

Arizona State University

Engineering Projects in Community Service, Academic Associate	Fall 2015 – Present
The ASU Experience, Lecturer	Fall 2016
Principles of Programming with Java, Lecturer	Fall 2014
Introduction to Natural Language Processing, Teaching Assistant	Fall 2013

STUDENT MENTORING

Graduate Mentor, 2Sigma Learning Lab, Arizona State

Anna Grabek, REU	2018
Billy Llamas, REU	2018
Delaney Kranz, REU	2018
Jennifer Breunig, REU	2018
Yuliana Flores, REU	2017
Samantha Baker, Fulton Undergraduate Research Initiative	2017 – 2018

Nicholas Martinez, Fulton Undergraduate Research Initiative
Tyler Robbins, REU

2016
2015

COMMUNITY SERVICE

Board member, Xavier College Preparatory Technology Board, 2014 – Present
Co-President, Women in Computer Science Society, 2014 – 2016
Volunteer Teacher, Junior Achievement, 2009 – 2012
Outreach Coordinator, GE Capital ITLP, 2008 – 2009

Reviewer

NAACL (North American Chapter Association for Computational Linguistics), CHI
(Computer-Human Interaction), HRI (Human-Robot Interaction), Speech Prosody, and
ICWSM (International AAAI Conference on Weblogs and Social Media)

COMMUNITY MEMBERSHIP

Association for Computational Linguistics, 2014
Institute of Electrical and Electronics Engineers, 2014
Women in Computer Science, ASU, 2013
Graduate Women's Association, ASU, 2013
Association for Computing Machinery, 2013
The Society of Women Engineers, 2013

OTHER ACHIEVEMENTS

ServiceNow Certified System Administrator, 2011
ITIL Foundations V3 (135538), 2011

RELEVANT GRADUATE LEVEL COURSEWORK

Statistics and Machine Learning

PSY 531 – Statistics: Multiple Regression
PSY 530 – Intermed Statistics
CSE 575 – Statistical Machine Learning
CSE 691 – Logical & Distributional Semantics of Natural Language
CSE 572 – Data Mining

Artificial Intelligence and Related Fields

CSE 571 – Artificial Intelligence
CSE 591 – Technologies for Online Learning
CSE 598 – Intelligent Interactive Instructional Systems
SHS 598 – Speech and Audio Processing and Perception

General Software Engineering

CSE 598 – Design and Analysis of Algorithms
CSE 555 – Theory of Computation
CSE 565 – Software Verification, Validation, and Testing
CSE 566 – Software Project/Process/Quality Management