DAVID PORFIRIO
CURRICULUM VITAE, FEBRUARY, 2021

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RESEARCH INTERESTS

I am interested in making the process of programming social robots easy and approachable for experts and non-expert designers alike. My work spans using **formal verification** to assist designers reason about interaction social norms, **program synthesis** to assist designers in implementing these interactions, and using **program repair** to automatically fix these interactions.

EDUCATION

PhD	University of Wisconsin–Madison (UW–Madison), Madison, WI, USA Computer Sciences	2018-present
MSc	UW–Madison, Madison, WI, USA Computer Sciences	2016-2018
BS	University of Arizona (UA), Tucson, AZ, USA Double degree (hon) in computer science and physiology Minor in mathematics Summa cum laude	2011-2016

RESEARCH EXPERIENCE

Doctoral Research 2016-present
UW–Madison, Madison, WI, USA
Computer Sciences
Advisors: Drs. Bilge Mutlu, Aws Albarghouthi, and Allison Sauppé

Undergraduate Senior Thesis 2015-2016
UW–Madison, Madison, WI, USA
Computer Sciences
Advisor: Dr. John Kececioglu

Undergraduate Research 2013-2014
UW–Madison, Madison, WI, USA
Computer Sciences
Advisors: Drs. E. Fiona Bailey and Joanna Masel

FELLOWSHIPS, HONORS, and AWARDS

Heidelberg Laureate Forum 2019
Invited to attend as a young researcher

Best Paper Award 2018
UIST '18

NSF Graduate Research Fellowship 2017

Advanced Opportunity Fellowship 2016
Selected by the UW–Madison Computer Sciences Department

Excellence in Undergraduate Research Award 2016
Selected by the UA Department of Computer Science

Galileo Circle Scholar 2015
Selected by the UA Department of Computer Science

National Hispanic Scholar 2011
Selected by the National Hispanic Recognition Program

Dean's List with Distinction 2011-2016
Awarded during six semesters at UA

PUBLICATIONS

Porfirio, D., Stegner, L., Cakmak, M., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2021, May). Figaro: A Tabletop Authoring Environment for Human-Robot Interaction. In Human factors in computing systems (in press).

Porfirio, D., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2020, April). Transforming robot programs based on social context. In Proceedings of the 2020 CHI conference on human factors in computing systems (pp. 1-12).

Porfirio, D., Fisher, E., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2019, October). Bodystorming Human-Robot Interactions. In Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology (pp. 479-491). ACM.

Porfirio, D., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2019, March). Computational Tools for Human-Robot Interaction Design. In 2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI) (pp. 733-735). IEEE.

Porfirio, D., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2018, October). Authoring and verifying human-robot interactions. In The 31st Annual ACM Symposium on User Interface Software and Technology (pp. 75-86). ACM.

Xiong, K., McEntee, J. P., **Porfirio, D. J.**, & Masel, J. (2017). Drift barriers to quality control when genes are expressed at different levels. Genetics, 205(1), 397-407.

Shumway, K. R., **Porfirio, D. J.**, & Bailey, E. F. (2015). Phonation-related rate coding and recruitment in the genioglossus muscle. Experimental brain research, 233(7), 2133-2140.

POSTERS

Porfirio, D. (2020) Authoring Social Interactions between Humans and Robots, Microsoft Research AI Breakthroughs; virtual

Porfirio, D., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2019) Computational Tools for Human-Robot Interaction Design, ACM/IEEE International Conference on Human-Robot Interaction; Daegu, South Korea

Porfirio, D., Sauppé, A., Albarghouthi, A., & Mutlu, B. (2017) Construction and Formal Verification of Human-Robot Interaction Designs, The Human Computer Interaction Consortium 2017 Workshop; Pajaro Dunes, CA

Karlie R. Shumway, **David J Porfirio**, E. Fiona Bailey (2014) Force Regulation in cranial and spinal motoneuron pools, 25th Annual Undergraduate Biology Research Conference; Tucson, AZ

TEACHING EXPERIENCE

Teaching Assistant, UA Summer 2015
Duties: holding office hours and grading programming assignments
CSC 352, Systems Programming and Unix

Section Leader, UA Fall 2014 - Spring 2015
Duties: teaching lab sessions, holding office hours, and grading assignments
CSC 245, Introduction to Discrete Structures
CSC 227, Program Design and Development

OUTREACH

Grandparents University 2018-present
Instructor
Co-taught social robotics lecture and lab sessions geared towards children and their grandparents.

UA Mortar Board Senior Honor Society 2014-2015
Member
Performed community service and various times during membership.

Tucson Medical Center 2012-2013
Worked over 200 hours in the Pediatrics and Labor and Delivery Departments, assisting nurses and visitors