

Nathaniel Dennler

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RESEARCH INTERESTS

Human-Robot Interaction, Assistive Robotics, Preference Learning,
Inverse Reinforcement Learning, User-Centered Design, Participatory Design.

EDUCATION

UNIVERSITY OF SOUTHERN CALIFORNIA | Los Angeles, CA August 2019-May 2024 (expected)
Computer Science Ph.D. Candidate, NSF GRFP Fellow, and Annenberg Fellow GPA 3.90/4.00

- *Advisors:* Stefanos Nikolaidis and Maja Matarić

WORCESTER POLYTECHNIC INSTITUTE | Worcester, MA August 2015-May 2019
B.S., Computer Science & B.Eng., Robotics Engineering GPA 3.95/4.00

- *Advisors:* Charles Rich, Loris Fichera, and Cagdas Onal

PUBLICATIONS

Journal Publications (2)

Nathaniel Dennler, Mina Kian, Stefanos Nikolaidis, and Maja Matarić . Designing Robot Identity: the Role of Voice Appearance, and Task on Robot Gender Perception. International Journal on Social Robotics (IJSR), *Under Preperation*.

Nathaniel Dennler, Changxiao Ruan, Jessica Hadiwijoyo, Brenna Chen, Stefanos Nikolaidis, and Maja Matarić. Using Design Metaphors to Understand User Expectations of Socially Interactive Robot Embodiments. Transactions on Human-Robot Interaction (THRI), *Under Review*.

Conference Publications (2)

Nathaniel Dennler, Eura Shin, Maja Matarić, and Stefanos Nikolaidis. Design and Evaluation of a Hair Combing System Using a General-Purpose Robotic Arm. 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

Nathaniel Dennler, Catherine Yunis, Jonathan Realmuto, Terence Sanger, Stefanos Nikolaidis, and Maja Matarić. Personalizing User Engagement Dynamics in a Non-Verbal Communication Game for Cerebral Palsy. 2021 30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN).

DEMONSTRATIONS AND PRESENTATIONS

“Robot-Assisted Hair Combing,” demoed at NeurIPS 2019 Demo Track December 2019
in Vancouver, Canada

“Expression Salience in Socially Assistive Robots,” presented at the National Science Foundation Engineering and Educations Centers Conference in Alexandria Virginia October 2019

“Mobile Manipulation through Tactile Sensing,” presented at MIT Lincoln Labs October 2018
in Lexington, MA

“Expression Salience in Socially Assistive Robots,” presented at the Southern California REU Conference in Los Angeles, CA July 2018

RESEARCH EXPERIENCE

ICAROS LAB (USC) Graduate Research Fellow (Co-advised by Stefanos Nikolaidis)	August 2019-Present
INTERACTION LAB (USC) Graduate Research Fellow (Co-advised by Maja Matarić)	August 2019-Present
MIT LINCOLN LABS Undergraduate Researcher	August 2018-November 2018
INTERACTION LAB (USC) Undergraduate Researcher	May 2018-August 2018
ASSISTMENTS LAB Undergraduate Researcher (advised by Korinn Ostrow)	August 2017-May 2018

TEACHING EXPERIENCE

CSCI 566: DEEP LEARNING AND IT'S APPLICATIONS (USC) Teaching Assistant	Spring 2022
CSCI 445: ROBOTICS (USC) Teaching Assistant	Fall 2022
RBE 3002: UNIFIED ROBOTICS IV (WPI) Student Teaching Assistant	Fall 2018, Spring 2019
RBE 3001: UNIFIED ROBOTICS III (WPI) Student Teaching Assistant	Fall 2018, Spring 2019

WORK EXPERIENCE

IROBOT Navigations Systems Intern	May 2019-August 2019
<ul style="list-style-type: none">Developed a web application to allow users to animate robot behaviors to play on iRobot products.Prototyped and demonstrated a robot for waste disposal, winning the intern design competition.	
WPI INFORMATION TECHNOLOGY Service Desk Specialist	March 2017-May 2018
<ul style="list-style-type: none">Triaged technical problems, managed computing resources, and assisted connection to networks.	
QUIKORDER Quality Assurance Intern	May 2017-August 2017
<ul style="list-style-type: none">Performed quality inspection of online ordering platforms to match commercial standards.	

SERVICE

JOURNAL REVIEWER | International Journal of Robotics Research (IJRR), Transactions on Neural Systems and Rehabilitation Engineering (TSNRE), Robotics and Automation Letters (RA-L), Science Robotics, and Public Library of Science ONE (PLoS ONE)

CONFERENCE REVIEWER | Human-Robot Interaction (HRI), International Conference on Robot and Human Interactive Communication (RO-MAN), International Conference on Social Robotics (ICSR), International Conference on Intelligent Robots and Systems (IROS), International Conference on Robotics and Automation (ICRA)

VOLUNTEER South LA Robotics	November 2021-Present
<ul style="list-style-type: none">Assists in running the Coding Club to teach coding fundamentals to elementary and middle school students in the South Los Angeles area.	
MERIT BADGE UNIVERSITY DIRECTOR Alpha Phi Omega at WPI	May 2018-April 2019
<ul style="list-style-type: none">Lead a committee to plan a two-day conference for 300 boy scouts to attain merit badges.Designed courses according to merit badge specifications to be delivered at the conference.	
SERVICE VICE PRESIDENT Alpha Phi Omega at WPI	January 2018-May 2018
<ul style="list-style-type: none">Planned community service opportunities for over 80 active members, resulting in a total of 3000 hours across the organization, the largest number of hours in the chapter's history for one semester.	

AWARDS

SALISBURY AWARD , <i>for outstanding impact on the WPI community</i>	<i>April 2019</i>
NSF GRADUATE RESEARCH FELLOW	<i>April 2019</i>
PROGRAM OF THE YEAR (MERIT BADGE UNIVERSITY)	<i>April 2019</i>
DISTINGUISHED SERVICE KEY , <i>highest chapter award for Alpha Phi Omega</i>	<i>April 2019</i>
USC ANNENBERG FELLOW	<i>February 2019</i>
US NOVICE CHALLENGE PAIRS CHAMPION , <i>for winning a national invited competition</i>	<i>October 2017</i>
CHARLES O. THOMPSON SCHOLAR , <i>for outstanding academic performance</i>	<i>March 2016</i>
AP SCHOLAR WITH DISTINCTION	<i>July 2014, July 2015</i>
NATIONAL CHEMISTRY OLYMPIAD SEMI-FINALIST	<i>April 2015</i>
US FIGURE SKATING NATIONAL SILVER MEDALIST , <i>for Intermediate Pairs</i>	<i>January 2015</i>