

## Thomas R Groechel

CONTACT INFORMATION	3425 Motor Ave #310 Los Angeles, CA 90034	<i>Mobile:</i> 248-921-3254 <i>E-mail:</i> groechel@usc.edu
RESEARCH INTERESTS	Socially Assistive Robot (S.A.R.) Tutors, Virtual and Augmented Reality Robotics	
EDUCATION	<b>University of Southern California</b> , Los Angeles, CA – Ph.D. Computer Science, – Research Advisor: Professor Maja J. Matarić <b>University of Michigan</b> , Ann Arbor, MI – B.S.E. Computer Science – Undergraduate Research Advisor: Odest C. Jenkins	<i>July 2018 - Present</i>    <i>Sep 2014 - May 2018</i>
EXPERIENCE	<b>Graduate Researcher Interaction Lab</b> Los Angeles, CA – Created mixed reality robot tutor aiming to teach kids through movement – Developed on and deployed telepresence robots in schools for home-bound students – Supported in-home deployments of robot tutor for students with ASD <b>UG Researcher 4Progress Lab</b> , Ann Arbor, MI – Developed 2-D S.L.A.M. algorithm using Iterative Closest Point visualization – Implemented Stochastic Gradient Descent to perform loop closure with Fetch 2-D map readings from Ed Olson’s paper Fast Iterative Alignment of Pose Graphs with Poor Initial Estimates <b>Staff Development Czar and TA</b> , Ann Arbor, MI – Created and led “Staff Development” program for second level computer science staff to improve both new staff members as well as seasoned veterans – Structured 35 student lab session to review and teach concepts in a specialized alternative to traditional lecture, tailoring for active self learning – Produced class specific help and tip videos to give students an extra resource to common issues in a newer format <b>Robotics Software Intern at TRAC Labs</b> , Houston, TX	<i>July 2018 - Present</i>    <i>May 2016 - May 2018</i>    <i>Sep 2016 - May 2018</i>    <i>Summer 2017</i>
STUDENT RESEARCH MENTORING	<b>Current Undergraduates</b> – Roxanna Pakkar – Zhonghao Shi – Chloe Kuo – Julia Cordero – Roddur Dasgupta – Haemin Lee <b>Previous Students</b> – Ryan Stevenson – Adnan Karim – İpek Gökten – Mena Hassan	USC Electrical Engineering, Merit Research Fellow USC Computer Science USC Computer Science, Merit Research Fellow USC Computer Science, Merit Research Fellow USC Computer Science USC Computer Science  USC Computer Science Games University of Calgary Computer Science, SURE Student Highschool Student, USC SHINE Program Highschool Student, USC SHINE Program

CONTRIBUTIONS TO GRANT PROPOSALS	<b>NSF NRI 2.0 - Communicate, Share, Adapt: A Mixed Reality Framework for Facilitating Robot Integration and Customization</b> – Research grant awarded and based upon Ph.D. work Augmented Reality S.A.R. – Outlined and contributed significant text to proposal
K-12 EDUCATIONAL OUTREACH	<b>Microsoft TEALS Teaching Volunteer</b> , Los Angeles, CA <i>July 2019-Present</i> – Volunteer teaching program designed to teach a high school teacher from a non-CS background how to teach computer science – Teach AP Computer Science to students at Los Angeles Center for Enriched Studies <b>The Help Group STEM Academy</b> , Los Angeles, CA <i>June 2019</i> <b>Monterey Hills Elementary Assembly</b> , Los Angeles, CA <i>May 2019, Nov 2019</i> <b>USC Robotics Academy Judge</b> , Los Angeles, CA <i>Dec 2018/19, Apr 2019</i> <b>VEX Robotics Team Leader</b> , Los Angeles, CA <i>Oct 2018 - Feb 2019</i>
HONORS AND AWARDS	<b>USC George Bekey Service Award</b> <i>May 2019</i>
PUBLICATIONS	[1] Naomi T. Fitter, Luke M. Rush, Elizabeth Cha, <b>Thomas R. Groechel</b> , Maja J. Matarić, and Leila Takayama “Closeness is Key over Long Distances: Effects of Interpersonal Closeness on Telepresence Experience”, Accepted 2020 ACM/IEEE International Conference on Human Robot Interaction (HRI '20), Cambridge, UK, Mar-2020.  [2] <b>Thomas R. Groechel</b> , Zhonghao Shi, Roxanna Pakkar, and Maja J. Matarić “Using Socially Expressive Mixed Reality Arms for Enhancing Low-Expressivity Robots”, In 2019 IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN '19), New Delhi, India, Oct-2019. <b>Robotics Society of Japan and Korean Robotics Society Distinguished Interdisciplinary Research Award Finalist (3 nominated from 206)</b>
TALKS AND DEMOS	<b>Robots Visions &amp; Voices Demo</b> University of Southern California <i>24 Oct 2019</i> <b>S.A.R. Through Augmented Reality Extensions Demo and Discussion</b> Public Affairs Council in Laguna Beach, CA <i>8-9 Jan 2019</i>
PROFESSIONAL SERVICE	<b>Workshop Organizer</b> – <i>Virtual Augmented and Mixed Reality (VAM) HRI</i> – Accepted for <b>HRI 2020</b> <b>Tutorial Organizer</b> – <i>Physically Situating Multi-modal Mixed Reality Human Robot Interaction</i> – Accepted for <b>IROS 2020</b> <b>Reviewer for these Conferences and Journals</b> – Science Robotics 2018 <b>Women in US Academic Research in Robotics Website</b> <i>July 2019 - Present</i> – Created and maintain a list of current women in US academic robotics research – Link: <a href="https://us-women-in-robotics-research.github.io">us-women-in-robotics-research.github.io</a>