Exponent®
Engineering & Scientific Consulting

Ruben Gameros-Ramos

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Professional Profile

Mr. Gameros-Ramos specializes in rapid development of prototype systems and robotics with experience spanning the different phases of development from conceptualization to implementation. He has extensive experience with a wide range of fabrication techniques and CAD software. Combining knowledge of engineering development, fabrication, and implementation, he is able to translate client requests into processes and fixturing designs that meet both functional requirements and capture relevant information.

While at Exponent, Mr. Gameros-Ramos' broad background in the engineering and fielding of systems has enabled him to support projects across battery testing and defense technology. Additionally, he has played a key role in the design of highly specialized fixturing for vision capture and simulating flooding of underground infrastructure.

Prior to joining Exponent, Mr. Gameros-Ramos had experience in the areas of multi-robot systems and swarm strategies. As part of the Autonomous Systems Laboratory at Arizona State University, Mr. Gameros-Ramos conducted robotics research and developed systems with industry partners. More specifically his work involved the development of robot platforms as well as complete multi-robot systems for lab and field use. In labs, Mr. Gameros-Ramos developed a testbed for swarm strategies and human-robot interaction. Fielded systems include a swarm of drones for disaster-response applications tested at a US Navy facility and a distributed system for monitoring marine mammal populations using sensor pods deployed on the ocean floor of Guinjata Bay, Mozambique.

Academic Credentials & Professional Honors

B.S., Aerospace Engineering, Arizona State University, 2012

Prior Experience

Graduate Research Assistant - Autonomous Collective Systems Laboratory Arizona State University, Tempe, AZ 2017 - 2021

Mechanical & Systems Engineer - Humanitarian Assistance and Disaster Response Project for US Navy Arizona State University, Tempe, AZ 2020 – 2021

Graduate Research Fellow, Global Development Research Scholars, Guinjata Bay, Mozambique, 2019

Graduate Fellow, NASA Space Grant, Arizona State University, Tempe, AZ, 2012 – 2015

R&D Engineer, Extreme Environments Robotics and Instrumentation Lab, Arizona State University,

Tempe, AZ 2012 – 2013

Intern, Socha Lab and Advanced Experimental Thermofluid Research Lab, Virginia Polytechnic Institute and State University, Blacksburg, VA, 2011

Intern, NASA Space Grant Consortium, Arizona State University, Tempe, AZ 2009 - 2012

Publications

Swart J, R Gameros Ramos, J Stephan. Propagating Circuit Board Failures and Product Fires. International Symposium on Fire Investigation Science and Technology (ISFI), Orlando, Florida, 2024.

Sean Wilson, Ruben Gameros, Michael Sheely, Matthew Lin, Kathryn Dover, Robert Gevorkyan, Matt Haberland, Andrea Bertozzi, and Spring Berman, “Pheeno, A Versatile Swarm Robotic Research and Education Platform,” IEEE Robotics and Automation Letters (RA-L), vol. 1, issue 2, pp. 884-891, July 2016.

Presentations

Ruben Gameros, Kaitlin Baudier, Jon Harrison, Spring Berman. “Homeostatically Regulated Entrance Tube Geometry in the Stingless Bee, Tetragonisca angustula.” BioSci Southwest, Tempe, AZ, Nov. 1 2019.

Spring Berman, Nancy Cooke, Mustafa Demir, Ruben Gameros, Sterling Martin, Taylor Reagan, and Rakshith Subramanyam. “CHARTOPOLIS: A Testbed for Driver Interaction with Driverless Cars.” 2018 Southwest Robotics Symposium, Arizona State University, Tempe, AZ, Jan. 25-26, 2018.

Ruben Gameros , Rakshith Subramanyam, and Spring Berman. “Smart Intersection Management System for Autonomous Vehicles.” Industry Advisory Board Meeting, National Science Foundation (NSF) Industry/University Cooperative Research Center for Efficient Vehicles and Sustainable Transportation Systems, Arizona State University, Tempe, AZ, May 22-23, 2017.

Project Experience

Developed processes, fixturing, and instrumentation layouts for large-format battery testing spanning cell, module, and large-format pack level.

Conducted comparative analysis of large-format batteries for industry client.

Investigated a fire event at a grid-scale battery installation. Conducted onsite inspection and worked with an Exponent team to provide insights into failure events and root causes.

Supported effort to integrate robotic aerial and ground platforms into US Army operations. This effort involved providing research, fabrication, logistics, and field support as system was tested during field exercises.

Supported design and implementation efforts to design highly specialized fixturing for vision capture and simulating flooding of underground infrastructure.