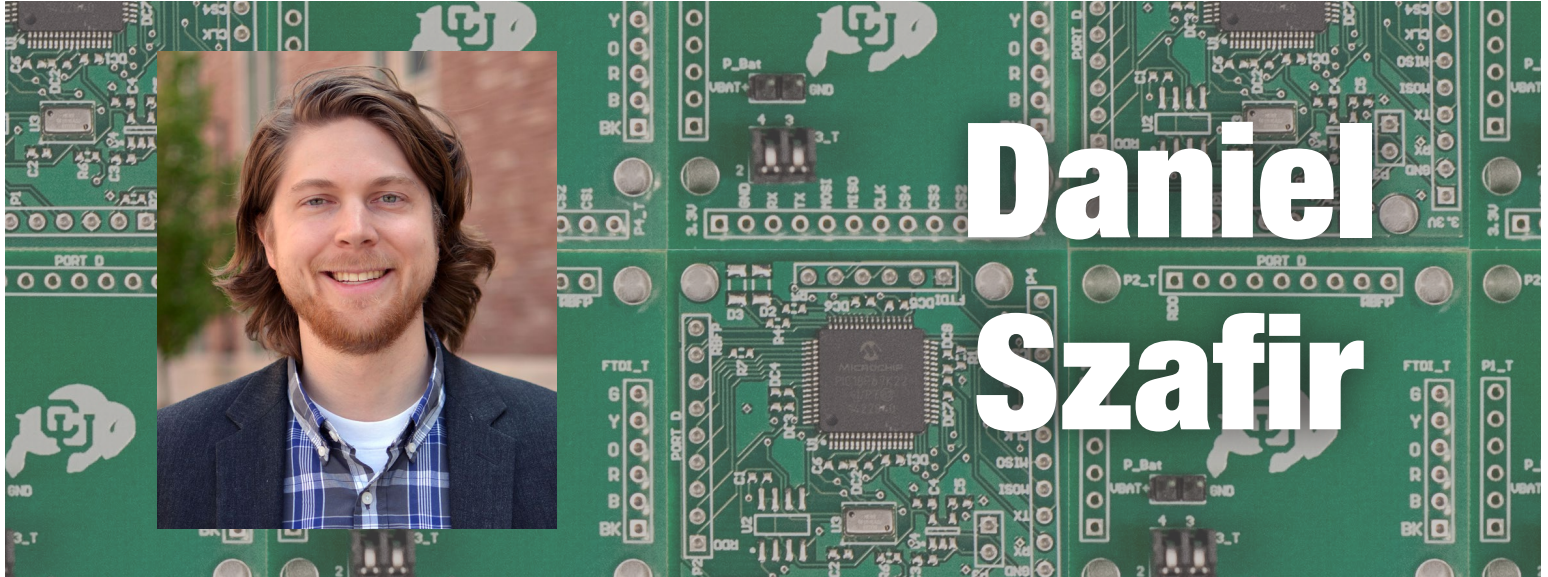


# Aerospace Seminar



# Daniel Szafir

**Assistant Professor, ATLAS and Computer Science - CU Boulder**

## Leveraging Cognitive Engineering for Human-Robot Interaction

**Friday, March 17, 2017 | ECCR 151 | 12:00 P.M.**

Robots hold great promise in aiding humans across a range of domains, including emergency response, manufacturing and delivery, construction, space exploration, and health and fitness.

While prior research has conducted in-depth investigations into various aspects related to robotic manipulation, planning, and control theory, the field of human-robot interaction (HRI), which examines issues pertaining to collaboration, safety, and real-world use, is still quite young.

This talk will advance an argument that prior work in cognitive engineering and human-computer interaction (HCI) can be an invaluable source of inspiration for researchers and practitioners seeking to develop robots that can successfully interact with users.

In particular, I will present three studies within the context of the Human Action Cycle, which appears to be a promising model that can help contextualize user interactions with robots and identify when and what type of breakdowns may occur.

This work will be situated within the space of aerial robots, ranging from consumer-grade quadcopters to NASA robots developed for the International Space Station, with a discussion of how cognitive engineering might inform robotics more broadly.



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Daniel Szafir is an Assistant Professor in the ATLAS Institute, the Department of Computer Science, and, by courtesy, in the Department of Information Science at the University of Colorado Boulder. He is also an affiliate of the CU Research and Engineering Center for Unmanned Vehicles (RECUV), the Institute for Cognitive Science (ICS), the Center for Neuroscience, and the Culture, Language, and Social Practice (CLASP) program.

Dr. Szafir directs the Interactive Robotics and Novel Technologies Laboratory (IRON Lab), which explores how we can leverage emerging interactive technologies, including small flying robots, wearable devices, and immersive virtual environments, to provide new forms of assistance to users in domains including collaborative work, education, and space exploration.

His research support has included NASA, the National Science Foundation, Google, Intel, and Mitsubishi Heavy Industries.

His work has been featured in several media outlets, including New Scientist, Engadget, and Discovery News, and he was recently named to the 2017 Forbes 30 Under 30 list for Science. Dr. Szafir received his PhD in Computer Science from the University of Wisconsin–Madison in 2015.

More information can be found on his website: <http://danszafir.com>