

Siddhartha Banerjee

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Education

- 2015 — 2021** Ph.D. in Robotics. Advised by Dr. Sonia Chernova.
Georgia Institute of Technology, Atlanta, GA, USA.
Title: Facilitating Reliable Autonomy With Human-Robot Interaction
- 2009 — 2013** B.S. Electrical Engineering/Computer Science with Distinction.
Yale University, New Haven, CT, USA.

Employment

- 2021 —** Robotics Engineer and Tech Lead for Remote Tools.
Diligent Robotics, Austin, TX, USA
- Fall 2018** Teaching Assistant for CS7633: Human-Robot Interaction.
Georgia Institute of Technology, Atlanta, GA, USA
- Summer 2018** Robotics Intern. Advised by Vivian Chu.
Diligent Robotics, Austin, TX, USA
- Summer 2017** Research Intern. Advised by Dan Bohus and Sean Andrist.
Microsoft, Seattle, WA, USA
- Fall 2016** Teaching Assistant for CS6601: Introduction to Artificial Intelligence.
Georgia Institute of Technology, Atlanta, GA, USA
- 2013 — 2015** Software Engineer on Data Team.
Redfin, Seattle, WA, USA
- 2012 — 2013** Peer Tutor for CPSC 202 and CPSC 223
Yale University, New Haven, CT, USA
- Summer 2012** Hardware Verification Intern.
Microsoft, Mountain View, CA, USA

Publications

Journals

S. Banerjee, A. Silva, and S. Chernova, “Robot Classification of Human Interruptibility and a Study of Its Effects,” in *ACM Transactions on Human-Robot Interaction (THRI)*, 7(2), p. 14, 2018

Conference Proceedings

D. Das, **S. Banerjee**, and S. Chernova, “Explainable AI for Robot Failures: Generating Explanations that Improve User Assistance in Fault Recovery,” in *Proceedings of the 2021 ACM/IEEE Int. Conf. Human-Robot Interaction*, HRI, 2021 (**Best Paper** Technical Advances)

S. Banerjee, M. Gombolay, and S. Chernova, “A Tale of Two Suggestions: Action and Diagnosis Recommendations for Responding to Robot Failure,” in *29th IEEE Int. Conf. on Robot and Human Interactive Communication*, RO-MAN, 2020

D. Kent, **S. Banerjee**, and S. Chernova, “Learning Sequential Decision Tasks for Robot Manipulation with Abstract Markov Decision Processes and Demonstration-Guided Exploration,” in *18th Int. Conf. on Humanoid Robots*, Humanoids, 2018

S. Banerjee and S. Chernova, “Temporal Models for Robot Classification of Human Interruptibility,” in *Int. Conf. on Autonomous Agents & Multiagent Systems*, AAMAS, 2017

Workshops, Symposia, Other

S. Banerjee and S. Chernova, “Fault Diagnosis in Robot Task Execution,” in *AAAI Spring Symposium Series*, 2019

S. Banerjee and S. Chernova, “Efficient Human-Robot Interaction for Robust Autonomy in Task Execution,” in *ACM/IEEE Int. Conf. on Human-Robot Interaction Pioneers Workshop*, 2018

A. Silva, **S. Banerjee**, and S. Chernova, “Excuse Me, Could You Please Assemble These Blocks For Me?” in *What Could Go Wrong? Workshop at HRI*, 2018

S. Banerjee and S. Chernova, “Robots Predicting the Interruptibility of Humans,” in *RSS Workshop on Planning for HRI*, 2016

B. Harrison, **S. Banerjee**, and M. O. Riedl, “Learning from Stories: Using Natural Communication to Train Believable Agents,” in *IJCAI Workshop on Interactive Machine Learning*, 2016

Awards and Leadership Positions

HRI 2019	Panel Chair, <i>HRI Pioneers Workshop</i>
2018 — 2019	Co-chair, Student Activities Committee, <i>IEEE Robotics and Automation Society</i>
2017 — 2018	President, RoboGrads, <i>Georgia Institute of Technology</i>
2016 — 2017	Social Chair, RoboGrads, <i>Georgia Institute of Technology</i>
Q3 2014	Employee of the Quarter, <i>Redfin</i>
2012 — 2013	Team Mentor, Formula Hybrid FSAE Team, <i>Yale University</i>
2011 — 2012	Vice President, Formula Hybrid FSAE Team, <i>Yale University</i>
Summer 2011	Yale Entrepreneurial Institute Fellowship, <i>Yale University</i>

Projects

ICRA 2019	FetchIt! Challenge. <i>Robotics Competition</i> Developed robot software to complete a mobile manipulation challenge at the ICRA 2019 FetchIt! Challenge hosted by Fetch Robotics. The team placed first, winning a Fetch mobile manipulator robot.
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- Spring 2016** **Quadrotor Control via Backstepping.** *Class Project*
Verified and simulated the control of a quadrotor through Backstepping to show provably correct control that uses less energy than traditional Inner-loop Outer-loop control.
- Spring 2016** **Treeminder: An SMS-based Goal Completion System for the United Way Achievement Club.** *Class Project*
Designed a goal tracking and completion system in partnership with the United Way Achievement Club to help members of at-risk populations avoid homelessness. Conducted usability and feasibility analyses to justify and support the design.
- 2009 — 2013** **Yale Formula Hybrid FSAE Team.** *Student Organization*
Designed and built formula style gas-electric hybrid car to compete against other schools in an annual national competition. Team awards: Best Hybrid Car (2013), Ford Efficiency Award (2013), Chrysler Innovation Award (2013), GM Best Engineered Hybrid System Award (2010, 2013)
- 2012 — 2013** **Synchronization and Collective Behaviour.** *Senior Class Project*
Simulated agent-based modeling of multi-agent systems. Explored the role of synchronization and chaos in dynamical systems.
- Spring 2012** **Assigning Blame to Self-Driving Cars.** *Class Project*
Surveyed drivers to determine whether blame is assigned to a self-driving car or the human driver using simulations of accidents between self-driving cars with human-driven cars.
- Fall 2011** **Design and Fabrication of Simple Data Encryption Standard (S-DES) Encryption/Decryption chip.** *Class Project*
Designed a VLSI chip to perform S-DES encryption/decryption and created CAD models of the chip and its layout in preparation for fabrication. Tested and verified the function of the chip post-fabrication.

Last updated: October 22, 2022