

ANDREA BAJCSY

CONTACT	<i>email</i>	abajcsy@berkeley.edu
	<i>office</i>	8th Floor, Berkeley Way West, UC Berkeley
	<i>website</i>	http://people.eecs.berkeley.edu/~abajcsy/
POSITION	University of California, Berkeley	
	Postdoctoral Scholar	Fall 2022 - 2023
	Advisor: Jitendra Malik	
EDUCATION	University of California, Berkeley	
	Ph.D. in Electrical Engineering and Computer Science	Summer 2022
	Advisors: Anca D. Dragan & Claire J. Tomlin Thesis: <i>Bridging Safety and Learning in Human-Robot Interaction</i>	
	University of Maryland, College Park	
	B.S. in Computer Science, Minor in Mathematics	2012 - 2016
INTERNSHIPS	NVIDIA Research	
	Autonomous Vehicles Research Scientist Intern	Spring 2021
	Max Planck Institute for Intelligent Systems	
	Autonomous Motion Group Research Intern	Summer 2016
JOURNAL ARTICLES	[J1]	D.P. Losey, A. Bajcsy, M.K. O'Malley, A.D. Dragan. "Physical Interaction as Communication: Learning Robot Objectives Online from Human Corrections". <i>International Journal of Robotics Research (IJRR)</i> , 2021.
	[J2]	E. Ratner, A. Bajcsy, C.J. Tomlin, A.D. Dragan. "Efficient Dynamics Estimation with Adaptive Model Sets". <i>IEEE Robotics and Automation Letters (RA-L)</i> , 2021.
	[J3]	A. Bajcsy, S. Bansal, E. Ratner, C.J. Tomlin, A.D. Dragan. "A Robust Control Framework for Human Motion Prediction." <i>IEEE Robotics and Automation Letters (RA-L)</i> , 2020.
	[J4]	A. Bobu, A. Bajcsy, J.F. Fisac, A.D. Dragan. "Quantifying Hypothesis Space Misspecification in Learning from Human-Robot Demonstrations and Physical Corrections." <i>IEEE Transactions on Robotics (T-RO)</i> , 2020. (Honorable Mention for the 2020 IEEE T-RO Best Paper Award)
	[J5]	D. Fridovich-Keil*, A. Bajcsy*, J.F. Fisac, S.L. Herbert, S. Wang, A.D. Dragan, C.J. Tomlin. "Confidence-Aware Motion Prediction for Real-Time Collision Avoidance." <i>International Journal of Robotics Research (IJRR)</i> , 2019.
	[J6]	A. Bateman, O. Zhao, A. Bajcsy, M. Jennings, B. Toth, A. Cohen, E. Horton, A. Khattar, R. Kuo, F. Lee, M.K. Lim, L. Migasiuk, R. Renganathan, A. Zhang, M.A. Oliveira. "A User-Centered Design and Analysis of an Electrostatic Haptic Touchscreen System for Students with Visual Impairments." <i>International Journal of Human-Computer Studies</i> , 2017.
CONFERENCE PUBLICATIONS	[C1]	R. Tian*, L. Sun*, A. Bajcsy*, M. Tomizuka, A.D. Dragan. "Safety Assurances for Human-Robot Interaction via Confidence-aware Game-theoretic Human Models." <i>International Conference on Robotics and Automation (ICRA)</i> , 2022.
	[C2]	A. Bajcsy, A. Siththaranjan, C.J. Tomlin, A.D. Dragan. "Analyzing Human Models that Adapt Online." <i>International Conference on Robotics and Automation (ICRA)</i> , 2021.
	[C3]	S. Bansal*, A. Bajcsy*, E. Ratner*, A.D. Dragan, C.J. Tomlin. "A Hamilton-Jacobi Reachability-Based Framework for Predicting and Analyzing Human Motion for Safe Planning." <i>Conference on Robotics and Automation (ICRA)</i> , 2020.

* indicates equal contribution.

- [C4] A. Bajcsy*, S. Bansal*, E. Bronstein, V. Tolani, C.J. Tomlin. “An Efficient Reachability-Based Framework for Provably Safe Autonomous Navigation in Unknown Environments.” *Conference on Decision and Control (CDC)*, 2019.
- [C5] A. Bajcsy*, S.L. Herbert*, D. Fridovich-Keil, J.F. Fisac, S. Deglurkar, A.D. Dragan, C.J. Tomlin. “A Scalable Framework For Real-Time Multi-Robot, Multi-Human Collision Avoidance.” *International Conference on Robotics and Automation (ICRA)*, 2019.
- [C6] A. Bobu, A. Bajcsy, J.F. Fisac, A.D. Dragan. “Learning Under Misspecified Objective Spaces.” *Conference on Robot Learning (CoRL)*, 2018.
(invited to special issue)
- [C7] J.F. Fisac*, A. Bajcsy*, S.L. Herbert, D. Fridovich-Keil, S. Wang, C.J. Tomlin, A.D. Dragan. “Probabilistically Safe Robot Planning with Confidence-Based Human Predictions.” *Robotics: Science and Systems (RSS)*, 2018.
(invited to special issue)
- [C8] A. Bajcsy, D.P. Losey, M.K. O’Malley, A.D. Dragan. “Learning from Physical Human Corrections, One Feature at a Time.” *International Conference on Human-Robot Interaction (HRI)*, 2018.
- [C9] A. Bajcsy*, D.P. Losey*, M.K. O’Malley, A.D. Dragan. “Learning Robot Objectives from Physical Human Robot Interaction.” *Conference on Robot Learning (CoRL)*, 2017.
(oral, acceptance rate 10%)
- [C10] E.L. Horton, R. Renganathan, B.N. Toth, A.J. Cohen, A.V. Bajcsy, A. Bateman, M.C. Jennings, A. Khattar, R.S. Kuo, F.A. Lee, M.K. Lim, L.W. Migasiuk, A. Zhang, O.K. Zhao, M.A. Oliveira. “A Review of Principles in Design and Usability Testing of Tactile Technology for Individuals with Visual Impairments.” *Assistive Technology*, 2016.
- [C11] A. Bajcsy, Y.S. Li-Baboud, M. Brady. “Systematic Measurement of Marginal Mark Types on Voting Ballots.” *NIST IR 8069*, 2015.
- [C12] A. Bajcsy, Y.S. Li-Baboud, M. Brady. “Depicting Web Images for the Blind and Visually Impaired.” *SPIE Newsroom*, 2013.
- PRE-PRINTS [P1] A. Bajcsy*, K. Leung*, E. Schmerling, M. Pavone. “Towards the Unification and Data-Driven Synthesis of Autonomous Vehicle Safety Concepts.” arXiv:
<https://arxiv.org/abs/2107.14412>
- WORKSHOP PUBLICATIONS [W1] A. Bajcsy. “Introspective Human Motion Prediction for Safe Robot Autonomy.” *RSS Pioneers*, RSS, 2020.
- [W2] A. Bajcsy, S. Bansal, E. Ratner, C.J. Tomlin, A.D. Dragan. “A Robust Control Framework for Intent-Driven Human Motion Prediction.” *Interaction and Decision-Making in Autonomous-Driving*, ICRA, 2020.
- TEACHING **CS188: Introduction to Artificial Intelligence** UC Berkeley, 2020
Graduate Student Instructor. Taught a weekly one-hour discussion section, held weekly office hours.
- EE221A: Linear Systems Theory** UC Berkeley, 2019
Graduate Student Instructor. Taught a weekly two-hour discussion section for 50 PhD, masters, and undergraduate students. Graded homeworks, exams, and held weekly office hours.
- CMSC131: Object-Oriented Programming** University of Maryland, 2014
Undergraduate Teaching Assistant. Taught a weekly one-hour discussion section of 30 students and held office hours.
- HONORS & AWARDS **Rising Stars Academic Career Workshop in EECS** 2021
Selective, intensive workshop for historically marginalized graduate students and postdocs interested in pursuing academic careers in EE, CS, AI, and decision-making.
- Honorable Mention for the 2020 IEEE T-RO Best Paper Award** 2020
For the paper “Quantifying Hypothesis Space Misspecification in Learning from Human-Robot Demonstrations and Physical Corrections”

	Robotics: Science and Systems (RSS) Pioneers	2020
	Selected for workshop bringing together top early career researchers in robotics.	
	National Science Foundation Graduate Research Fellowship	2016
	Three-year research fellowship of \$34,000 yearly for graduate students in STEM.	
	Berkeley EECS Excellence Award	2016
	One-year fellowship of \$26,000 during the academic year, \$4,000 over the summer.	
	Student Researchers of the Year Award , University of Maryland	2016
	Awarded to five undergrad researchers in all disciplines at University of Maryland.	
	CRA Outstanding Undergraduate Research Award Honorable Mention	2015
	Brendan Iribe Scholar , University of Maryland	2015
	Awarded yearly to one undergraduate student in Computer Science.	
WORKSHOPS & SEMINARS	4th Workshop on Long-term Human Motion Prediction	2022
	Co-Organizer, ICRA Workshop	
	Robotics for People: Perspectives on Interaction, Learning, and Safety	2021
	Co-Organizer, RSS Workshop	
	RSS Pioneers	2021
	Co-General Chair, RSS Workshop	
	3rd Workshop on Long-term Human Motion Prediction	2021
	Co-Organizer, ICRA Workshop	
	DREAM/CPAR Seminar	2019 - Present
	Lead Organizer, UC Berkeley	
	2nd Workshop on Robust Autonomy	2020
	Lead Organizer, RSS Workshop	
	Robust Autonomy: Safe Robot Learning and Control in Uncertain Real-World Environments	2019
	Co-organizer, RSS Workshop	
	Semiautonomous Seminar	2018 - 2019
	Co-organizer, UC Berkeley	
INVITED TALKS	Safety Assurances for Human-Robot Interaction via Confidence-aware Game-theoretic Human Models	
	Workshop on Safe Learning for Autonomous Driving (SL4AD) , ICML	2022
	Bridging Safety and Learning in Human-Robot Interaction	
	Department Seminar, Carnegie Mellon University	2022
	Department Seminar, Northwestern University	2022
	Department Seminar, Brown University	2022
	Department Seminar, Georgia Tech	2022
	Department Seminar, University of Washington	2022
	Department Seminar, University of Pennsylvania	2022
	Department Seminar, Harvard	2022
	Department Seminar, MIT	2022
	Department Seminar, UC Santa Barbara	2022
	Department Seminar, University of Michigan	2022
	Department Seminar, Cornell	2022
	Department Seminar, UC Los Angeles	2022
	Frontiers in CMS Symposium , Caltech	2022
	Multi-Agent Reinforcement Learning Seminar , UC Berkeley	2022

[Robotics Colloquium](#), University of Washington 2021

[MAE 207: Safety for Autonomous Systems](#), University of California San Diego 2021

Analyzing Human Models that Adapt Online

[Intelligent Control Lab](#), Carnegie Mellon University 2021

George Pappas Laboratory, University of Pennsylvania 2021

Introspective Human Motion Prediction for Safe Robot Autonomy

[CS188: Introduction to Artificial Intelligence](#), UC Berkeley 2020

[Autonomy Talks](#), ETH Zurich 2020

Sam Burden Laboratory, University of Washington 2020

[Robotics Seminar](#), Stanford University 2020

Safe Robots Which Learn From (and About) Humans

[AI4ALL](#), UC Berkeley 2021

[BAIR / Transfer-to-Excellence Research Experience for Undergraduates](#), UC Berkeley 2021

[Innovative Robotics Symposium](#), University of Chicago Laboratory School 2020

An Efficient Reachability-Based Framework for Provably Safe Autonomous Navigation in Unknown Environments

[ELE 539: Safety-Critical Robotic Systems Class](#), Princeton University 2020

A Robust Control Framework for Human Motion Prediction

[Berkeley DeepDrive](#), UC Berkeley 2020

Confidence-Aware Motion Prediction for Real-time Collision Avoidance

[Robotics Seminar](#), Northwestern University 2019

[Intelligent Systems Division](#), National Institute for Standards and Technology (NIST) 2019

[Long-Term Human Motion Prediction Workshop](#), ICRA 2019

Probabilistically Safe Robot Planning with Confidence-Based Human Predictions

[Berkeley Artificial Intelligence Research \(BAIR\) Seminar Series](#), UC Berkeley 2018

Learning Robot Objectives from Physical Human-Robot Interaction

[CS287H: Algorithmic Foundations of Human-Robot Interaction](#), UC Berkeley 2021

[Bay Area Robotics Symposium \(BARS\)](#), UC Berkeley 2017

[Berkeley DeepDrive](#), UC Berkeley 2017

RESEARCH MENTORSHIP

[Ran \(Thomas\) Tian](#) (PhD student at UC Berkeley) 2021 - Present
Safety for robots interacting with humans.

[Regina Wang](#) (Undergraduate at UC Berkeley) 2021 - Present
Active robot learning.

[Anand Siththaranjan](#) (now PhD student at UC Berkeley) 2019 - Present
Reachability to analyze human motion models that adapt online.

[Charles Tang](#) (now software engineer at [Applied Intuition](#)) 2019 - 2021
Providing online safety guarantees around learning-enabled motion planners.

[Sampada Deglurkar](#) (now PhD student at UC Berkeley) 2018 - 2020
Learning intent and constraints from human interaction.

	Eli Bronstein (now software engineer at Waymo Research)	2019
	Safe navigation in unknown environments via online algorithms for HJ reachability.	
OUTREACH	Machine learning @ Berkeley	2021
	Invited talk on human motion prediction for the Berkeley undergraduate machine learning club.	
	creAlivity	2021
	Invited talk at the AI Ethics Lab to students from underrepresented backgrounds.	
	BAIR & TTE Research Experience for Undergrads	2021 - 2022
	Mentoring and invited talk at the Berkeley AI Research & Transfer-To-Excellence program.	
	AI4ALL mentor and speaker	2020 - 2022
	Summer camp on AI for underrepresented high school students	
	Berkeley Artificial Intelligence Research mentor	2019
	Mentoring underrepresented students in research and career planning	
	Girls in Engineering Camp	2018 - 2019
	Taught summer camp students about self-driving cars	
	Girl Scouts Engineering Fun Day	2018
REVIEW ACTIVITIES	RSS: Robotics: Science and Systems	
	RA-L: IEEE Robotics and Automation Letters	
	T-RO: IEEE Transactions on Robotics	
	IROS: IEEE International Conference on Intelligent Robots and Systems	
	ICRA: IEEE International Conference on Robotics and Automation	
	HRI: IEEE International Conference on Human-Robot Interaction	
	AuRo: Autonomous Robots	
	CoRL: Conference on Robot Learning	
	ICCPS: IEEE International Conference on Cyber-Physical Systems	
	ACC: American Control Conference	

July 19, 2022