

STEFANOS NIKOLAIDIS

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Education History

- Ph.D., Robotics**, *Carnegie Mellon University*. 2017
Advisor: Siddhartha Srinivasa.
- M.Sc., Aeronautics and Astronautics**, *Massachusetts Institute of Technology*. 2014
Advisor: Julie Shah.
- M.Eng., Precision Engineering**, *The University of Tokyo*. 2009
Advisor: Tamio ARAI.
- B.Sc., Electrical and Computer Engineering**, *National Technical University of Athens*. 2006
Advisor: Spyros Tzafestas.

Professional Experience

- Staff Software Engineer**, *Waymo*, Mountain View, CA. 2025–
- Associate Professor of Computer Science with Tenure**, *University of Southern California*, Viterbi School of Engineering. 2024–
- Affiliated Researcher**, *ARCHIMEDES Research Unit*, Athena Research Center. 2024–
- Fluor Early Career Chair**, *University of Southern California*, Viterbi School of Engineering. 2022–
- Assistant Professor of Computer Science**, *University of Southern California*, Viterbi School of Engineering. 2018–2024
- Research Associate**, *University of Washington*, Department of Computer Science and Engineering, PI: Siddhartha Srinivasa. 2018
- Visiting Researcher**, *National University of Singapore*, Department of Computer Science, PI: David Hsu. 2016
- Research Specialist**, *Massachusetts Institute of Technology*, Computer Science and Artificial Intelligence Laboratory, PI: Julie Shah. 2014
- Researcher**, *Square Enix Research and Development*, Japan. 2009–2011
- Software Engineer**, *Institute of Language and Speech Processing*, Greece. 2006–2007

Honors and Awards

- ACM SIGEVO Best Dissertation Award**, awarded to my PhD student Matthew Fontaine, one award is given annually to a single doctoral candidate worldwide to recognize excellent thesis research in the field of evolutionary computing. 2025
- USC Viterbi Best Dissertation Award Finalist**, awarded to my PhD student Nathan Dennler (co-advised by Maja Mataric). 2025

Best Paper Award, <i>RSS: Workshop on GenAI-HRI</i> .	2025
Best Technical Paper Award Finalist, <i>HRI 2025</i> .	2025
Best Systems Paper Award Finalist, <i>HRI 2025</i> .	2025
USC PhD Achievement Award, <i>awarded to my PhD student Matthew Fontaine</i> , one of six students are awarded annually across the entire university for academic excellence.	2024
Okawa Research Grant, <i>Okawa Foundation</i> .	2024
Best Late Breaking Report Award, <i>HRI 2024</i> .	2024
Best Evolutionary Machine Learning Paper Award, <i>GECCO 2023</i> .	2023
Bodossaki Foundation Distinguished Young Scientists Award Finalist, <i>Applied Science</i> , one of three finalists.	2023
Best Systems Paper Award Finalist, <i>HRI 2023</i> .	2023
Best Paper Award Finalist, <i>IEEE Transactions on Haptics</i> , one of two finalists for year 2022.	2022
Fluor Early Career Chair, USC Viterbi School of Engineering.	2022
Agilent Early Career Professor Award, sole recipient.	2022
NSF CAREER Award.	2022
Amazon Research Award, <i>co-PI</i> .	2022
Best Cognitive Robotics Paper Award Finalist, <i>IROS 2019</i> .	2019
<i>Prior to joining USC</i>	
Best Technical Advances Paper Award Finalist, <i>HRI 2018</i> .	2018
Best Enabling Technologies Paper Award, <i>HRI 2015</i> .	2015
CMU Gordon Bell Fellowship.	2015
Best Paper Award Finalist, <i>44th International Symposium of Robotics (ISR 2013)</i> .	2013
Invited Talk at HRI Pioneers. (2 out of 57 applicants were selected)	2013
MIT Dupont Fellowship.	2012
MIT George and Marie Vergottis Fellowship.	2012
Onassis Foundation Scholarship.	2011
Propondis Foundation Honorary Scholarship.	2011
Third place in Japan-Open RoboCup, <i>Four-legged league</i> , Osaka.	2007
Japanese Government Scholarship, <i>Scholarship for graduate studies in Japan</i> .	2007

Publications

Underline denotes senior author(s). Research group members: ^PPhD student, ^MMaster's student, ^UUndergraduate student, ^VVisiting PhD student.

Journals

- [J1] S. Zhao^P, B. Tjanaka^P, M. Fontaine^P, and S. [Nikolaidis](#), "Covariance matrix adaptation map-annealing: Theory and experiments," in *ACM Transactions on Evolutionary Learning and Optimization*, 2025.
- [J2] N. Dhanaraj, H. Nemlekar^P, S. [Nikolaidis](#), and S. Gupta K., "Proactive contingency-aware task allocation and scheduling in multi-robot multi-human cells via hindsight optimization," in *IEEE Transactions on Automation Science and Engineering*, 2025.
- [J3] N. Dennler^P, M. Kian, S. [Nikolaidis](#), and M. [Mataric](#), "Designing robot identity: The role of voice, clothing, and task on robot gender perception," in *International Journal of Social Robotics (IJSR)*, 2025.
- [J4] H. Nemlekar^P, N. Sivagnanadasan^M, S. Banga^M, S. Gupta K., and S. [Nikolaidis](#), "Selecting source tasks for transfer learning of human preferences," in *Robotics and Automation Letters (RA-L)*, 2024.
- [J5] N. Dennler^P, A. Cain, E. Guzman, C. Chiu, C. Winstein, S. [Nikolaidis](#), and M. [Mataric](#), "A metric for characterizing the arm nonuse workspace in poststroke individuals using a robot arm," in *Science Robotics*, Impact Factor: 27.5, 2023.
- [J6] G. [Hoffman](#), T. Bhattacharjee, and S. [Nikolaidis](#), "Inferring human intent and predicting human action in human-robot collaboration," in *Annual Review of Control, Robotics, and Autonomous Systems*, Impact Factor: 13.4, 2023.
- [J7] B. Tjanaka^P, M. Fontaine^P, A. Kalkar^M, and S. [Nikolaidis](#), "Training diverse high-dimensional controllers by scaling covariance matrix adaptation map-annealing," in *Robotics and Automation Letters (RA-L)*, Impact Factor: 5.2, 2023.
- [J8] H. Zhang^P, S.-H. Chan, J. Zhong, J. Li, P. Kolapo, S. [Koenig](#), Z. Agioutantis, S. [Schafrik](#), and S. [Nikolaidis](#), "Multi-robot geometric task-and-motion planning for collaborative manipulation tasks," in *Autonomous Robots (AURO)*, Impact Factor: 3.5, 2023.
- [J9] N. Dennler^P, C. Ruan, J. Hadiwijoyo, B. Chen, S. [Nikolaidis](#), and M. [Matarić](#), "Using design metaphors to understand user expectations of socially interactive robot embodiments," *ACM Transactions on Human-Robot Interaction (THRI)*, 2022, Impact Factor: 5.1.
- [J10] A. Puranic, J. [Deshmukh](#), and S. [Nikolaidis](#), "Learning performance graphs from demonstrations via task-based evaluations," *Robotics and Automation Letters (RA-L)*, 2022, Impact Factor: 3.741.
- [J11] S. Lu, M. Zheng, M. Fontaine^P, S. [Nikolaidis](#), and H. [Culbertson](#), "Preference-driven texture modeling through interactive generation and search," *ACM Transactions on Haptics (ToH)*, 2022, (best paper award finalist).
- [J12] M. Fontaine^P and S. [Nikolaidis](#), "Evaluating human-robot interaction algorithms in shared autonomy via quality diversity scenario generation," *ACM Transactions on Human-Robot Interaction (THRI)*, 2022, Impact Factor: 5.1.
- [J13] M. Selvaggio, M. Cognetti, S. [Nikolaidis](#), S. Ivaldi, and B. [Siciliano](#), "Autonomy in physical human-robot interaction: A brief survey," *IEEE Robotics and Automation Letters*, 2021, Impact Factor: 3.741.

- [J14] A. G. Puranic, J. V. Deshmukh, and S. Nikolaidis, "Learning from demonstrations using signal temporal logic in stochastic and continuous domains," *IEEE Robotics and Automation Letters*, 2021, Impact Factor: 3.741.
- [J15] M. Chen, S. Nikolaidis, H. Soh, D. Hsu, and S. Srinivasa, "Trust-aware decision making for human-robot collaboration: Model learning and planning," *ACM Transactions on Human-Robot Interaction (THRI)*, 2020.

Prior to joining USC

- [J16] S. Nikolaidis, M. Kwon, J. Forlizzi, and S. Srinivasa, "Planning with verbal communication for human-robot collaboration," *ACM Transactions on Human-Robot Interaction (THRI)*, 2018, Impact Factor: 5.1.
- [J17] S. Nikolaidis, D. Hsu, and S. Srinivasa, "Human-robot mutual adaptation in collaborative tasks: Models and experiments," *The International Journal of Robotics Research (IJRR)*, 2017.
- [J18] S. Nikolaidis, P. Lasota, R. Ramakrishnan, and J. Shah, "Improved human-robot team performance through cross-training, an approach inspired by human team training practices," *The International Journal of Robotics Research (IJRR)*, 2015.

Conferences

- [C0] B. Tjanaka^P, H. Chen^U, M. Fontaine^P, and S. Nikolaidis, "Discount model search for quality diversity optimization in high-dimensional measure spaces," *International Conference on Learning Representations (ICLR)*, 2026, (oral presentation), Acceptance rate: 1%.
- [C0] S. Hedayatian^P and S. Nikolaidis, "Soft quality-diversity optimization," *International Conference on Learning Representations (ICLR)*, 2026, Acceptance rate: 28%.
- [C0] —, "Autoqd: Automatic discovery of diverse behaviors with quality-diversity optimization," *International Conference on Learning Representations (ICLR)*, 2026, Acceptance rate: 28%.
- [C1] S. Srikanth^U, V. Bhatt^P, B. Zhang^M, W. Hager, C. M. Lewis, K. P. Sycara, A. Tabrez, and S. Nikolaidis, "Algorithmic prompt generation for diverse human-like teaming and communication with large language models," in *The Genetic and Evolutionary Computation Conference (GECCO)*, (poster), 2026.
- [C2] A. Ni, S. Stepputtis, S. Nikolaidis, M. Lewis, K. Sycara, and W. Kim, "Theory of mind guided strategy adaptation for zero-shot coordination," in *Proceedings of the International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*, Acceptance rate: 25%, 2026.
- [C3] C. Qian, V. Bhatt^P, M. Fontaine^P, S. Nikolaidis, and J. Li, "Qd-mapper: A quality diversity framework to automatically evaluate multi-agent path finding algorithms in diverse maps," in *Proceedings of the International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*, Acceptance rate: 25%, 2026.
- [C4] B. Li, S. Shi, L. Romero, H. Li, Y. Xie, W. Kim, S. Nikolaidis, M. Lewis, K. Sycara, and S. Stepputtis, "Adaptively coordinating with novel partners via learned latent strategies," in *Neural Information Processing Systems (NeurIPS)*, Acceptance rate: 24.52%, 2025.
- [C5] E. Zhao, V. Raval, H. Zhang^P, J. Mao, Z. Shangguan, S. Nikolaidis, Y. Wang, and D. Seita, "Manipbench: Benchmarking vision-language models for low-level robot manipulation," in *Conference on Robot Learning (CORL)*, Acceptance rate: 35.77%, 2025.

- [C6] S. Zhao^P and S. Nikolaidis, "Multi-objective covariance matrix adaptation map-annealing," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 36%, 2025.
- [C7] N. Dennler^P, Z. Shi, U. Yoo, S. Nikolaidis, and M. Mataric, "Modeling personalized difficulty of rehabilitation exercises using causal trees," in *IEEE/RAS International Conference on Rehabilitation Robotics (ICORR)*, 2025.
- [C8] N. Dennler^P, S. Nikolaidis, and M. Mataric, "Contrastive learning from exploratory actions: Leveraging natural interactions for preference elicitation," in *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, (**best Technical paper finalist**, Acceptance rate: 25%, 2025.
- [C9] U. Yoo, N. Dennler^P, E. Xing, S. Nikolaidis, M. Mataric, J. Ichnowski, and J. Oh, "Soft and compliant contact-rich hair manipulation and care," in *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, (**best Systems paper finalist**, Acceptance rate: 25%, 2025.
- [C10] Y.-C. Hsu^P, M. Defranco^M, R. Patel^M, and S. Nikolaidis, "Integrating field of view in human-aware collaborative planning," in *IEEE International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 38.67%, 2025.
- [C11] N. Dennler^P, Z. Shi, S. Nikolaidis, and M. Mataric, "User experience in preference-based optimization of reward functions for assistive robots," in *International Symposium of Robotics Research (ISRR)*, 2024.
- [C12] V. Raval, E. Zhao, H. Zhang^P, S. Nikolaidis, and D. Seita, "Gpt-fabric: Smoothing and folding fabric by leveraging pre-trained foundation models," in *International Symposium of Robotics Research (ISRR)*, 2024.
- [C13] R. Costales^P and S. Nikolaidis, "Diva: Training adaptive agents in open-ended simulators via semi-supervised environment design," in *Neural Information Processing Systems (NeurIPS)*, Acceptance rate: 25.8%, 2024.
- [C14] A. Puranic^P, J. Deshmukh, and S. Nikolaidis, "Signal temporal logic-guided apprenticeship learning," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 47.5%, 2024.
- [C15] T. Huang, N. R. Sontakke, N. Kannabiran, I. Essa, S. Nikolaidis, D. Hong, and S. Ha, "Bayrntune: Adaptive bayesian domain randomization via strategic fine-tuning," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 47.5%, 2024.
- [C16] N. Dhanaraj, M. Jeon, J. H. Kang, S. Nikolaidis, and S. K. Gupta, "Preference elicitation and incorporation for human-robot task scheduling," in *IEEE 20th International Conference on Automation Science and Engineering (CASE)*, 2024.
- [C17] H. Nemlekar^P, N. Sivagnanadasan^M, S. Banga^M, N. Dhanaraj, S. K. Gupta, and S. Nikolaidis, "Selecting source tasks for transfer learning of human preferences," in *IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2024.
- [C18] N. Dhanaraj, J. H. Kang, A. Mukherjee, H. Nemlekar^P, S. Nikolaidis, and S. K. Gupta, "Multi-robot task allocation under uncertainty via hindsight optimization," in *IEEE International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 44.8%, 2024.
- [C19] Y. Zhang, H. Jian, V. Bhatt^P, S. Nikolaidis, and J. Li, "Guidance graph optimization for lifelong multi-agent path finding," in *The International Joint Conference on Artificial Intelligence (IJCAI)*, Acceptance rate: 15%, 2024.

- [C20] D. Lee^U, A. Palaparthi^U, M. Fontaine^P, and S. **Nikolaidis**, "Density descent for diversity optimization," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 36%, 2024.
- [C21] S. Batra, B. Tjanaka^P, M. Fontaine^P, A. Petrenko, S. **Nikolaidis**, and G. Sukhatme, "Proximal policy gradient arborescence for quality diversity reinforcement learning," in *International Conference on Learning Representations (ICLR)*, (**spotlight presentation**), Acceptance rate: 5%, 2024.
- [C22] A. Chang^U, M. Fontaine^P, B. Serena, M. Mataric, and S. **Nikolaidis**, "Quality-diversity generative sampling for learning with synthetic data," in *AAAI Conference on Artificial Intelligence (AAAI)*, Acceptance rate: 23.75%, 2024.
- [C23] Y. Zhang, M. Fontaine^P, V. Bhatt^P, S. **Nikolaidis**, and J. Li, "Arbitrarily scalable environment generators via neural cellular automata," in *Neural Information Processing Systems (NeurIPS)*, Acceptance rate: 26.1%, 2023.
- [C24] V. Bhatt^P, H. Nemlekar^P, M. Fontaine^P, B. Tjanaka^P, H. Zhang^P, Y.-C. Hsu^P, and S. **Nikolaidis**, "Surrogate assisted generation of human-robot interaction scenarios," in *Conference on Robot Learning (CORL)*, (**oral presentation**), Acceptance rate: 6.6%, 2023.
- [C25] Y. Zhang, M. Fontaine^P, V. Bhatt^P, S. **Nikolaidis**, and J. Li, "Large-scale multi-robot coordination and layout design for automated warehousing," in *The International Joint Conference on Artificial Intelligence (IJCAI)*, Acceptance rate: 15%, 2023.
- [C26] M. C. Fontaine^P and S. **Nikolaidis**, "Covariance matrix adaptation map-annealing," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 35.1%, (**best Evolutionary Machine Learning paper award**), 2023.
- [C27] B. Tjanaka^P, M. C. Fontaine^P, D. Lee^U, Y. Zhang^M, N. R. Balam^M, N. Dennler^P, S. Garlanka^M, N. Klapsis, and S. **Nikolaidis**, "Pyribs: A bare-bones python library for quality diversity optimization," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 35.1%, 2023.
- [C28] S. Dass, K. Pertsch, H. Zhang^P, Y. Lee, J. Lim, and S. **Nikolaidis**, "Pato: Policy assisted teleoperation for scalable robot data collection," in *Robotics: Science and Systems (RSS)*, 2023.
- [C29] O. Manyar, Z. McNulty, S. **Nikolaidis**, and S. Gupta, "Inverse reinforcement learning framework for transferring task sequencing policies from humans to robots in manufacturing applications," in *Proceedings of the International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 43.0%, 2023.
- [C30] N. Dhanaraj, S. Narayan, S. **Nikolaidis**, and S. Gupta, "Contingency-aware task assignment and scheduling for human-robot teams," in *Proceedings of the International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 43.0%, 2023.
- [C31] H. Nemlekar^P, A. Guan^M, N. Dhanaraj, S. Gupta, and S. **Nikolaidis**, "Transfer learning of human preferences for proactive robot assistance in assembly tasks," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, Acceptance rate: 25.2%, (**best systems paper award finalist**), 2023.

- [C32] V. Bhatt^P, B. Tjanaka^P, M. Fontaine^P, and S. Nikolaidis, "Deep surrogate assisted generation of environments," in *Neural Information Processing Systems (NeurIPS)*, Acceptance rate: 25.6%, 2022.
- [C33] H. Zhang^P, S.-H. Chan, J. Zhong, J. Li, S. Koenig, and S. Nikolaidis, "A mip-based approach for multi-robot geometric task-and-motion planning," in *Proceedings of the IEEE International Conference on Automation Science and Engineering (CASE)*, 2022.
- [C34] H. Nemlekar^P, R. Guan^M, G. Luo^M, S. Gupta, and S. Nikolaidis, "Towards transferring human preferences from canonical to actual assembly tasks," in *Proceedings of the IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)*, Acceptance rate: 64%, 2022.
- [C35] N. Dhanaraj, R. Malhan, H. Nemlekar, S. Nikolaidis, and S. Gupta, "Human-guided goal assignment to effectively manage workload for a smart robotic assistant," in *Proceedings of the IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)*, Acceptance rate: 64%, 2022.
- [C36] Y. Zhang^U, M. Fontaine^P, A. Hoover, and S. Nikolaidis, "Dsa-me: Deep surrogate assisted map-elites," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 37%, 2022.
- [C37] B. Tjanaka^P, M. Fontaine^P, J. Togelius, and S. Nikolaidis, "Differentiable quality diversity for reinforcement learning by approximating gradients," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 37%, 2022.
- [C38] S. Earle, J. Snider, M. Fontaine^P, S. Nikolaidis, and J. Togelius, "Illuminating diverse neural cellular automata for level generation," in *The Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 37%, 2022.
- [C39] M. Fontaine^P and S. Nikolaidis, "Differentiable quality diversity," in *Neural Information Processing Systems (NeurIPS)*, (oral presentation), Acceptance rate: <1%, 2021.
- [C40] N. Dennler^P, M. Matarić, and S. Nikolaidis, "Design and evaluation of a hair combing system using a general-purpose robotic arm," in *Proceedings of the International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 45%, 2021.
- [C41] H. Nemlekar^P, Z. Liu^U, S. Kothawade^M, S. Niyaz^V, B. Raghavan, and S. Nikolaidis, "Robotic lime picking by considering leaves as permeable obstacles," in *Proceedings of the International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 45%, 2021.
- [C42] M. C. Fontaine^P, Y.-C. Hsu^P, Y. Zhang^U, B. Tjanaka^P, and S. Nikolaidis, "On the importance of environments in human-robot coordination," in *Robotics Science and Systems (RSS)*, Acceptance rate: 27%, 2021.
- [C43] M. C. Fontaine^P and S. Nikolaidis, "A quality diversity approach to automatically generating human-robot interaction scenarios in shared autonomy," in *Robotics Science and Systems (RSS)*, Acceptance rate: 27%, 2021.
- [C44] N. Dennler^P, C. Yunis, J. Realmuto, T. Sanger, S. Nikolaidis, and M. Matarić, "Personalizing user engagement dynamics in a non-verbal communication game for cerebral palsy," in *Proceedings of the IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)*, Acceptance rate: 65%, 2021.

- [C45] H. Nemlekar^P, J. Modi^M, S. Gupta, and S. Nikolaidis, "Two-stage clustering of human preferences for action prediction in assembly tasks," in *Proceedings of the International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 48%, 2021.
- [C46] B. Tang, M. Corsaro, G. Konidaris, S. Nikolaidis, and S. Tellex, "Learning collaborative pushing and grasping policies in dense clutter," in *Proceedings of the International Conference on Robotics and Automation (ICRA)*, Acceptance rate: 48%, 2021.
- [C47] M. Fontaine^P, R. Liu^U, A. Khalifa, J. Modi^M, J. Togelius, A. Hoover, and S. Nikolaidis, "Illuminating mario scenes in the latent space of a generative adversarial network," in *35th AAAI Conference on Artificial Intelligence (AAAI)*, Acceptance rate: 21%, 2021.
- [C48] A. Puranic, J. Deshmukh, and S. Nikolaidis, "Learning from demonstrations using signal temporal logic," in *Conference on Robot Learning (CORL)*, Acceptance rate: 34%, 2020.
- [C49] H. Zhang^P, M. Fontaine^P, A. Hoover, J. Togelius, B. Dilkina, and S. Nikolaidis, "Video game level repair via mixed integer linear programming," in *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)*, (oral presentation), Acceptance rate: 25%, 2020.
- [C50] M. Fontaine^P, J. Togelius, S. Nikolaidis, and A. Hoover, "Covariance matrix adaptation for the rapid illumination of behavior space," in *Proceedings of the 2020 Genetic and Evolutionary Computation Conference (GECCO)*, Acceptance rate: 36%, 2020.
- [C51] Y. Chen, A. Cuellar^U, H. Luo, J. Modi^M, H. Nemlekar^P, and S. Nikolaidis, "Fair contextual multi-armed bandits: Theory and experiments," in *Conference on Uncertainty in Artificial Intelligence (UAI)*, Acceptance rate: 28%, 2020.
- [C52] —, "The fair contextual multi-armed bandit," in *Proceedings of the International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*, (short paper), 2020.
- [C53] S. H. Yoon^M and S. Nikolaidis, "Robot learning in mixed adversarial and collaborative settings," in *Proceedings of the International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 47%, 2020.
- [C54] H. Clauere^V, Y. Chen, J. Modi^M, M. Jung, and S. Nikolaidis, "Multi-armed bandits with fairness constraints for distributing resources to human teammates," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, Acceptance rate: 24%, 2020.
- [C55] L. Klein, L. Itti, B. A. Smith, M. Rosales, S. Nikolaidis, and M. J. Matarić, "Surprise! predicting infant visual attention in a socially assistive robot contingent learning paradigm," in *Proceedings of the International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2019.
- [C56] J. Duan^P, Q. Wang, L. Pinto, C. J. Kuo, and S. Nikolaidis, "Robot learning via human adversarial games," in *Proceedings of the International Conference on Intelligent Robots and Systems (IROS)*, Acceptance rate: 45%, (**best cognitive robotics paper award finalist**), 2019.
- [C57] H. Zhang^P, P.-J. Lai^M, S. Paul^M, S. Kothawade^M, and S. Nikolaidis, "Learning collaborative action plans from youtube videos," in *Proceedings of the International Symposium on Robotics Research (ISRR)*, 2019.

Prior to joining USC

- [C58] T. Weng, L. Perlmutter, S. Nikolaidis, S. Srinivasa, and M. Cakmak, "Robot object referencing through legible situated projections," in *Proceedings of the International Conference on Robotics and Automation (ICRA)*, 2019.
- [C59] M. Chen*, S. Nikolaidis*, H. Soh, D. Hsu, and S. Srinivasa, "Planning with trust for human-robot collaboration," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, (* equal contribution, **best technical advances paper award finalist**), 2018.
- [C60] S. Nikolaidis, S. Nath, A. D. Procaccia, and S. Srinivasa, "Game-theoretic modeling of human adaptation in human-robot collaboration," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2017.
- [C61] S. Nikolaidis, Y. X. Zhu, D. Hsu, and S. Srinivasa, "Human-robot mutual adaptation in shared autonomy," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2017.
- [C62] S. Nikolaidis, A. Kuznetsov, D. Hsu, and S. Srinivasa, "Formalizing human-robot mutual adaptation: A bounded memory model," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2016.
- [C63] S. Nikolaidis, A. Dragan, and S. Srinivasa, "Viewpoint-based legibility optimization," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2016.
- [C64] S. Nikolaidis, R. Ramakrishnan, K. Gu, and J. Shah, "Efficient model learning from joint-action demonstrations for human-robot collaborative tasks," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, (**best enabling technologies paper award**), 2015.
- [C65] S. Nikolaidis and J. Shah, "Human-robot cross-training: Computational formulation, modeling and evaluation of a human team training strategy," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2013.
- [C66] R. Wilcox, S. Nikolaidis, and J. Shah, "Optimization of temporal dynamics for adaptive human-robot interaction in assembly manufacturing," *Robotics Science and Systems (RSS)*, 2012.
- [C67] S. Nikolaidis and T. Arai, "Optimal arrangement of ceiling cameras for home service robots using genetic algorithms," in *The IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2009.
- [C68] S. Nikolaidis, R. Ueda, A. Hayashi, and T. Arai, "Optimal camera placement considering mobile robot trajectory," in *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2009.
- [C69] R. Ueda, S. Nikolaidis, A. Hayashi, and T. Arai, "Global pose estimation of multiple cameras with particle filters," in *Distributed Autonomous Robotic Systems (DARS)*, 2009.
- [C70] A. Gkiokas, K. Perifanos, and S. Nikolaidis, "Real-time detection and visualization of clarinet bad sounds," in *Proceedings of the International Conference on Digital Audio Effects (DAFx)*, 2008.
- [C71] P. Kamol, S. Nikolaidis, R. Ueda, and T. Arai, "RFID based object localization system using ceiling cameras with particle filter," in *Future generation communication and networking (FGCN)*, 2007.

Workshops and Posters

- [W1] S. Srikanth, V. Bhatt^P, M. Lewis, K. Sycara, A. Tavrez, and S. Nikolaidis, "Improving human-robot interaction via a population of synthetic human-like teams," in *RSS: Workshop on Generative Models x HRI*, 2025.
- [W2] B. Li, S. Shi, L. Romero, H. Li, Y. Xie, W. Kim, S. Nikolaidis, M. Lewis, K. Sycara, and S. Stepputis, "Modeling latent partner strategies for adaptive zero-shot human-agent collaboration," in *RSS: Workshop on Generative Models x HRI*, (**best paper award**), 2025.
- [W3] U. Yoo, N. Dennler^P, M. Mataric, S. Nikolaidis, J. Oh, and J. Ichnowski, "Moe-hair: Toward soft and compliant contact-rich hair manipulation and care," in *HRI Late Breaking Reports*, (**best Late Breaking Report award**), 2024.
- [W4] M. Daniilidis^U, N. Dennler^P, M. Matarić, and S. Nikolaidis, "Adapting task difficulty in a cup-stacking rehabilitative task," in *HRI Late Breaking Reports*, 2024.
- [W5] S. Hsu^P, M. C. Fontaine^P, S. Earle, M. Edwards, J. Togelius, and S. Nikolaidis, "Generating diverse indoor furniture arrangements," in *ACM SIGGRAPH (Poster)*, 2022.
- [W6] M. C. Fontaine^P, L. B. Soros, J. Togelius, A. Hoover, and S. Nikolaidis, "Jaggy snake: A quality diversity optimization benchmark for action sequences and conditional dependencies," in *GECCO: Workshop on Quality Diversity Algorithm Benchmarks*, 2022.
- [W7] B. Tjanaka^P, M. C. Fontaine^P, and S. Nikolaidis, "Quantifying efficiency in quality diversity optimization," in *GECCO: Workshop on Quality Diversity Algorithm Benchmarks*, 2022.
- [W8] B. Tjanaka^P, M. C. Fontaine^P, J. Togelius, and S. Nikolaidis, "Differentiable quality diversity for reinforcement learning by approximating gradients," in *ICLR'22: Workshop on Agent Learning in Open-Endedness (ALOE)*, (**Spotlight Presentation**), 2022.
- [W9] Y. Zhang^U, M. C. Fontaine^P, A. Hoover, and S. Nikolaidis, "Dsa-me: Deep surrogate assisted map-elites," in *HRI'22: Workshop on Joint Action, Adaptation, and Entrainment in Human Robot Interaction*, (**Spotlight Presentation**), 2022.
- [W10] M. C. Fontaine^P, Y.-C. Hsu^P, Y. Zhang^U, B. Tjanaka^P, and S. Nikolaidis, "On the importance of environments for human-robot coordination," in *HRI'22: Workshop on Novel and Emerging Test Methods & Metrics for Effective HRI*, 2022.
- [W11] —, "On the importance of environments for human-robot coordination," in *HRI'22: Workshop on Joint Action, Adaptation, and Entrainment in Human Robot Interaction*, 2022.
- [W12] —, "On the importance of environments for human-robot coordination," in *In Neural and Information Processing Systems (NeurIPS) Workshop on Cooperative AI*, 2021.
- [W13] A. Xenaki, H. Zhang^P, S. Schafrik, Z. Agioutantis, and S. Nikolaidis, "Roof bolting module automation for enhancing miner safety," in *International Future Mining Conference*, 2021.
- [W14] H. Nemlekar^P, J. Modi, S. Gupta, and S. Nikolaidis, "Two-stage clustering of human preferences for action prediction in assembly tasks," in *In International Conference on Robotics and Automation (ICRA) Workshop on Social Intelligence in Humans and Robots*, 2021.
- [W15] H. Zhang^P and S. Nikolaidis, "Robot learning collaborative manipulation plans from youtube cooking videos," in *In Robotics: Science and Systems (RSS) Workshop on Emergent Behaviors in Human-Robot Systems*, 2020.

- [W16] R. Pocius, N. Zamani, H. Culbertson, and S. **Nikolaidis**, "Communicating robot goals via haptic feedback in manipulation tasks," in *HRI Pioneers*, 2020.
- [W17] H. Zhang^P, E. Heiden, S. **Nikolaidis**, J. J. Lim, and S. G. Sukhatme, "Auto-conditioned recurrent mixture density networks for learning generalizable robot skills," in *Southern California Robotics Symposium*, 2019.
- [W18] J. Duan^P, Q. Wang, L. Pinto, C.-C. J. Kuo, and S. **Nikolaidis**, "Robust grasping via human adversary," in *Southern California Robotics Symposium*, 2019.

Prior to joining USC

- [W19] S. **Nikolaidis**, E. Kasneci, and S. Srinivasa, "Leveraging eye tracking and physiological signals for fluent human robot collaboration," in *IROS Workshop on Human-Robot Interaction in Collaborative Manufacturing Environments*, 2017.
- [W20] M. Chen, S. **Nikolaidis**, H. Soh, D. Hsu, and S. Srinivasa, "The role of trust in decision-making for human robot collaboration," in *Robotics Science and Systems (RSS), Workshop on Human-Centered Robotics*, 2017.
- [W21] S. **Nikolaidis**, K. Gu, R. Ramakrishnan, and J. Shah, "Learning human types from demonstration," in *2014 AAAI Fall Symposium Series*, 2014.
- [W22] S. **Nikolaidis**, P. Lasota, G. Rossano, C. Martinez, T. Fuhlbrigge, and J. Shah, "Human-robot collaboration in manufacturing: Quantitative evaluation of predictable, convergent joint action," in *International Symposium on Robotics (ISR)*, (**best paper award finalist**), 2013.
- [W23] P. Lasota, S. **Nikolaidis**, and J. Shah, "Developing an adaptive robotic assistant for close proximity human-robot collaboration in space," in *AIAA Infotech Aerospace Conference*, 2013.
- [W24] S. **Nikolaidis** and J. Shah, "Human-robot cross-training: Computational formulation, modeling and evaluation of a human team training strategy," in *HRI Pioneers (International Conference on Human-Robot Interaction)*, 2011.
- [W25] —, "Human-robot interactive planning using cross-training: A human team training approach," in *AIAA Infotech Aerospace Conference*, 2012.
- [W26] —, "Human-robot teaming using shared mental models," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI), Workshop on Human-Agent-Robot Teamwork*, 2012.
- [W27] R. Ueda, S. **Nikolaidis**, A. Hayashi, and T. Arai, "Pose estimation of multiple cameras with particle filters - evaluation on experimental data," in *Proceedings of the Annual Conference of the Robotics Society of Japan (RSJ)*, (in Japanese), 2008.
- [W28] F. Duan, S. **Nikolaidis**, A. Hayashi, J. Tan, Y. Zhang, and T. Arai, "Image-based operator monitoring system," in *Proceedings of the Annual Conference of the Robotics Society of Japan (RSJ)*, (in Japanese), 2008.
- [W29] A. Hayashi, S. **Nikolaidis**, R. Ueda, and T. Arai, "Optimal pose planning for door opening task by mobile 7 dof manipulator," in *Proceedings of the Annual Conference of the Robotics Society of Japan (RSJ)*, (in Japanese), 2008.
- [W30] F. Duan, J. Tan, S. **Nikolaidis**, R. Kato, and T. Arai, "Predict worker's intention through template-based gesture recognition method," in *The Japan Society for Precision Engineering Autumn Meeting (JSPE)*, 2008.

- [W31] R. Ueda, S. Nikolaidis, P. Kamol, A. Hayashi, and T. Arai, "Pose estimation of multiple cameras with particle filters – evaluation on simulation," in *The Society of Instrument and Control Engineers (SICE)*, (in Japanese), 2007.

Teaching

Courses

Introduction to Robotics, *University of Southern California*.

Instructor

In my second year at USC, I took the ambitious initiative of designing a new course from scratch, where students practice what we discuss in the lectures in a simulation environment and also with actual anthropomorphic robotic arms. We setup the lab assignments so that students have the opportunity to work in groups of four members max with a Kinova Gen2 Lightweight robotic arm.

	Fall 2019	Fall 2020	Fall 2021	Fall 2023	Fall 2024
Instructor evaluation	4.26 ^{1,2}	4.45 ¹ , 4.46 ²	4.51 ^{1,2}	4.53 ^{1,2}	4.22 ^{1,2}
Course evaluation	4.22 ^{1,2}	4.39 ¹ , 4.31 ²	4.31 ^{1,2}	4.29 ^{1,2}	4.21 ^{1,2}

¹class, ²lab

Computational Human-Robot Interaction, *University of Southern California*.

This is an advanced graduate level class that contrasts decision-theoretic and learning-based paradigms of reasoning under uncertainty with studies in human-robot interaction. The course emphasizes reading and presenting research papers.

	Fall 2018	Spring 2020	Spring 2021	Spring 2022	Spring 2024
Instructor evaluation	4.76	4.43	4.78	4.77	4.83
Course evaluation	4.41	4.29	4.78	4.54	4.5

Prior to joining USC

Manipulation Algorithms, *Carnegie Mellon University*.

2017

Instructor (co-taught with Dr. Katharina Muelling).

Dynamic Optimization, *Carnegie Mellon University*.

2017

TA for Prof. Chris Atkeson.

Future Faculty Program, *Eberly Center for Teaching Excellence and Educational Innovation*, *Carnegie Mellon University*.

2016-2017

Completed program, which included seminars, teaching feedback consultations and a course design project.

Principles of Autonomy and Decision Making, *Massachusetts Institute of Technology*.

2013

TA for Prof. Julie Shah

Current Students

Doctoral Students

Ya-Chuan Hsu, *Computer Science, USC*, Passed Thesis Proposal in Spring 2024.

2020-present

Varun Bhatt, *Computer Science, USC*, Passed Thesis Proposal in Fall 2025.

2021-present

Shihan Zhao, *Computer Science, USC*, Passed Qualifying Exam in Spring 2025.

2023-present

Saeed Hedayatian, *Computer Science, USC*.

2024-present

Yuming Qu, *Computer Science, USC*, Passed Thesis Proposal in Fall 2025.

2024-present

Master's Students

Undergraduate Students

Siddharth Srikanth, <i>Computer Science, USC.</i>	2023-present
Henry Chen, <i>Computer Science, USC.</i>	2024-present
Darius Mahjoob, <i>Computer Science, USC.</i>	2024-present

Former Students

Doctoral Students

Robby Costales, <i>Computer Science, USC.</i>	2025
Bryon Tjanaka, <i>Computer Science, USC</i> , now Software Engineer at Waymo.	2025
Nathan Dennler, <i>Computer Science, USC</i> , now Postdoctoral Researcher at MIT, USC Viterbi Best Dissertation Award Finalist.	2024
Matthew Fontaine, <i>Computer Science, USC</i> , now Research Scientist at Lila Sciences, ACM SIGEVO Best Dissertation Award, USC PhD Achievement Award.	2024
Hejia Zhang, <i>Computer Science, USC</i> , now Research Scientist at USC.	2024
Aniruddh Puranic, <i>Computer Science, USC</i> , co-advised with Prof. Jyo Deshmukh and graduated in Summer 2024, now Postdoctoral Researcher at the University of Maryland.	2024
Heramb Nemlekar, <i>Computer Science, USC</i> , graduated in Summer 2023, now Postdoctoral Researcher at Virginia Tech.	2023
Zimo Li, <i>Computer Science, USC</i> , previously advised by Prof. Hao Li and graduated in Spring 2023, now at startup in Los Angeles.	2021-2023
Jiali Duan, <i>Electrical Engineering, USC</i> , co-advised with Prof. C.-C. Jay Kuo and graduated in 2021, now Researcher at Apple.	2018-2021

Master's Students

Naren Dasan, <i>Computer Science, USC.</i> now PhD student at CU Boulder	2022-present
Sujay Garlaka, <i>Computer Science, USC.</i>	2022-2023
Aniruddha Kalkar, <i>Computer Science, USC.</i>	2022-2023
Subham Banga, <i>Computer Science, USC.</i>	2022-2023
Michael Defranco, <i>Computer Science, USC.</i>	2022-2023
Rutvik Patel, <i>Computer Science, USC.</i>	2022-2023
Angelos Guan, <i>Computer Science, USC.</i>	2022
Yuecheng Li, <i>Computer Science, USC.</i>	2021-2022
Guanyang Luo, <i>Computer Science, USC.</i>	2021-2022
Runyu Guan, <i>Computer Science, USC</i> , now SDE at Amazon.	2021
Yulun Zhang, <i>Computer Science, USC</i> , now PhD student at CMU Robotics Institute.	2021
Haoyang Chen, <i>Computer Science, USC.</i>	2021

Jignesh Modi, <i>Computer Science, USC.</i>	2019-2020
Hejia Zhang, <i>Computer Science, USC</i> , 2019 Viterbi Best MS Research Award, now PhD student at USC.	2018-2019
Seung Hee Yoon, <i>Computer Science, USC</i> , 2020 Viterbi Best MS Research Award.	2018-2020

Undergraduate Students

David Lee, <i>Computational and Applied Mathematics, USC.</i> now software engineer at Apple	2025
Steve Vott, <i>Computer Science, USC</i> , now member of technical staff at Nutanix.	2024
Anisha Palaparthi, <i>Computer Engineering and Computer Science, USC</i> , now MS student at Stanford.	2024
Allen Chang, <i>Computer Science, USC</i> , USC Provost's Undergraduate Research Fellowship, now PhD student at UPenn.	2024
Adrian Faust, <i>University of New Mexico</i> , REU Program.	2023
Melina Daniilidis, <i>University of Pennsylvania</i> , REU Program.	2023
Ryan Bahlous-Boldi, <i>University of Massachusetts, Amherst</i> , REU Program.	2023
Peter Wang, <i>Computer Engineering and Computer Science, USC</i> , now PhD student at Yale.	2022-2023
Vincent Vu, <i>Computer Science, USC</i> , USC Undergraduate Research Associates Program Award.	2021-2022
Adithya Raman, <i>University of Michigan, Ann Arbor</i> , REU Program.	2022
Yulun Zhang, <i>Computer Science, USC</i> , USC Undergraduate Research Associates Program Award, now PhD student at CMU.	2019-2021
Zijian Hu, <i>Computer Science, USC</i> , now research stuff at USC.	2019-2020
Ruilin liu, <i>Computer Science, USC</i> , USC Undergraduate Research Associates Program Award, now MS student at Columbia University.	2018-2019
Ziang Liu, <i>Computer Science, USC</i> , USC Undergraduate Research Associates Program Award, now MS student at Stanford University.	2018-2020
Eura Shin, <i>University of Kentucky</i> , REU Program, now PhD student at Harvard University.	2019
Alex Cuellar, <i>Massachusetts Institute of Technology</i> , REU Program, now PhD student at MIT.	2019

High School Students

Ruth Berkun, <i>SHINE Program.</i>	2020
Nikitas Klapsis, <i>SHINE Program.</i>	2020
Nidhya Shivakumar, <i>SHINE Program.</i>	2021
Dion Walker, <i>SHINE Program.</i>	2021
Melissa Lorenzo-Mendez, <i>, SHINE Program.</i>	2022
Cesar Gallegos, <i>SHINE Program.</i>	2022

Committees

PhD Committee

Neel Dhanaraj, <i>Mechanical and Aerospace Engineering, USC.</i>	2023-2025
Omey Manyar, <i>Mechanical and Aerospace Engineering, USC.</i>	2024-2025
Qingyang Zhou, <i>Electrical and Computer Engineering, USC.</i>	2024-2025
Yi-Shiuan Tung, <i>Computer Science, CU Boulder.</i>	2025
Yuming Gu, <i>Computer Science, USC.</i>	2025
Robby Costales, <i>Computer Science, USC.</i>	2025
Varun Bhatt, <i>Computer Science, USC.</i>	2025
Bryon Tjanaka, <i>Computer Science, USC.</i>	2025
Ayush Jain, <i>Computer Science, USC.</i>	2024
Jingyao Ren, <i>Computer Science, USC.</i>	2024
Karkala Hegde, <i>Computer Science, USC.</i>	2024-present
Shihan Lu, <i>Computer Science, USC.</i>	2023-2024
KR Zentner, <i>Computer Science, USC.</i>	2023-2024
Kal Backman, <i>Information and Computing Sciences, Monash University.</i>	2023
Zhiruo Zhou, <i>Electrical and Computer Engineering, USC.</i>	2023
Iordanis Fostiropoulos, <i>Computer Science, USC.</i>	2023
Naghmeh Zamani, <i>Computer Science, USC.</i>	2023
Christopher Birmingham, <i>Computer Science, USC.</i>	2022-2023
Nathan Dennler, <i>Computer Science, USC.</i>	2023-2024
Hejia Zhang, <i>Computer Science, USC.</i>	2022-2024
Aniruddh Puranic, <i>Computer Science, USC.</i>	2022-2024
Shichen Liu, <i>Computer Science, USC.</i>	2022
Zimo Li, <i>Computer Science, USC.</i>	2022-2023
Heramb Nemlekar, <i>Computer Science, USC.</i>	2022-2023
Youngwoon Lee, <i>Computer Science, USC.</i>	2022
Karl Pertsch, <i>Computer Science, USC.</i>	2022-2023
Jason Gregory, <i>Aerospace and Mechanical Engineering, USC.</i>	2022-2023
Isabel Rayas, <i>Computer Science, USC.</i>	2022-2023
Chris Denniston, <i>Computer Science, USC.</i>	2022-2023
Matthew C. Fontaine, <i>Computer Science, USC.</i>	2022-present
Aniruddh Puranic, <i>Computer Science, USC.</i>	2022-2024
Shao-Hua Sun, <i>Computer Science, USC.</i>	2022
Thomas Groechel, <i>Computer Science, USC.</i>	2022-2023
Yeo Jung Yoon, <i>Aerospace and Mechanical Engineering, USC.</i>	2021-2023

Tianye Li, <i>Computer Science, USC.</i>	2021-2022
Sebastien Arnold, <i>Computer Science, USC.</i>	2021-2022
Sarah Al-Hussaini, <i>Aerospace and Mechanical Engineering, USC.</i>	2021-2022
James Preiss, <i>Computer Science, USC.</i>	2021-2022
Eric Heiden, <i>Computer Science, USC.</i>	2021-2022
Elizabeth Boroson, <i>Computer Science, USC.</i>	2021-2022
Min Zhang, <i>Computer Science, USC.</i>	2021-2022
Jiali Duan, <i>Electrical and Computer Engineering, USC.</i>	2021
Ryan Julian, <i>Computer Science, USC.</i>	2021
Ali Marjaninejad, <i>Biomedical Engineering, USC.</i>	2021
Zeng Huang, <i>Computer Science, USC.</i>	2020
Brian Cohn, <i>Computer Science, USC.</i>	2020
Kyle Olszewski, <i>Computer Science, USC.</i>	2020
Heming Zhang, <i>Electrical and Computer Engineering, USC.</i>	2020

Qualifying Exam Committee

Nathan Dennler, Tianye Li, Zimo Li, Kyle Olszewski, Christopher Birmingham, Youngwoon Lee, Chris Denniston, Karl Pertsch, Thomas Groechel, Gautam Salhotra, Arka Sardu, Jason Gregory, Shunsuke Saito, Ali Marjaninejad, Ryan Julian, Eric Heiden, James Preiss, Brian Cohn, Shao-Hua Sun, Matthew Fontaine, Heramb Nemlekar, Yeo Jung Yoon, Liyu Chen, K.R. Zentner, Aniruddh Puranic, Isabel Rayas, Séb Arnold, Shihan Lu, Jiali Duan, Min Zhang, Serban Stan, Shichen Liu, Naghmeh Zamani, David Millard, Haidong Zhu, Taoan Huang, Tiancheng Jin, Hejia Zhang, Xin Zhu, Bryon Tjanaka, Iordanis Fostiropoulos, Aleksei Petrenko, Ya-Chuan Hsu, Zhiruo Zhou, Zhehui Huang, Christina Shin, Ayush Jain, Shao-Hung Chan, Sumeet Batra, Neel Dhanaraj, Jeremy Morgan, Yang Chen, Ganning Zhao, Han Zhang, Zhehui Huang, Neel Dhanaraj, Zhiruo Zhou, Taoan Huang, Jeremy Morgan, Yang Chen, Sumeet Batra, Omey Manyar, Weizhe Chen, Amy O'Connell, Kaustav Chakraborty, Hamed Alimohammadzadeh, Grace Zhang, Shihan Zhao, Abrar Abrar, Hamed Alimohammadzadeh, *University of Southern California.*

Sam Earle, *New York University.*

Service to the Field

Program Committees

Guest Editor: RA-L, Special Issue on Shared Autonomy for Physical Human-Robot Interaction, 2021.

Guest Editor: Frontiers in Robotics and AI, 2021.

Associate Editor: Autonomous Robots, 2022-present.

Associate Editor: Frontiers in Robotics and AI, 2021-2024.

Associate Editor: Transactions on Human-Robot Interaction (THRI), 2021-2024.

Associate Editor: International Conference on Robotics and Automation (ICRA), 2020-2022.

Associate Editor: International Conference on Intelligent Robots and Systems (IROS), 2021.

Program Committee: International Conference on Human-Robot Interaction (HRI), 2019, 2020, 2022.

Senior Program Committee: AAAI Conference on Artificial Intelligence (AAAI) Conference, 2019.

Conference Organization

Local Co-Chair: Robotics: Science and Systems (RSS) 2025.

Chair: Hybrid Systems: Computation and Control (HSCC) 2023, Demo / Posters, 2023.

Co-Chair: ACM/IEEE Interanction Conference on Human-Robot Interaction, Late Breaking Reports, 2023.

Workshop Organization

Environment Generation for Generalizable Robots (EGG), Robotics: Science and Systems (RSS) 2023.

QD-Benchmarks — Workshop on Quality Diversity Algorithm Benchmarks, The Genetic and Evolutionary Computation Conference (GECCO) 2022.

Machine Learning in Human-Robot Collaboration: Bridging the Gap, International Conference on Human-Robot Interaction (HRI) 2022.

Emergent Behaviors in Human-Robot Systems, Robotics: Science and Systems (RSS), 2020.

Prior to joining USC

Mathematical Models, Algorithms, and Human-Robot Interaction, Robotics: Science and Systems (RSS), 2017.

Planning for Human-Robot Interaction: Shared Autonomy and Collaborative Robotics, Robotics: Science and Systems (RSS), 2016.

Conference Session Chair

Session: "Human-Robot Interaction: Learning to Predict," International Conference on Robotics and Automation (ICRA), 2021.

Reviewing

Granting Agencies: National Science Foundation (NSF), Research Grants Council (RGC) of Hong Kong, Air Force Office of Scientific Research

Journals: International Journal of Robotics Research (IJRR), IEEE Transactions on Robotics (TRO), Autonomous Robots (AURO), IEEE Robotics and Automation Letters (RA-L), IEEE Robotics & Automation Magazine (RAM), PNAS Nexus

Conferences: International Conference on Human-Robot Interaction (HRI), Robotics: Science and Systems (RSS), HRI Pioneers, International Conference on Robotics and Automation (ICRA), International Conference on Intelligent Robots and Systems (IROS), IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), International Symposium of Robotics Research (ISRR), Conference on Robot Learning (CORL)

Outreach

Contributing expert at "Catalysts of the Next Wave" research report by Undeterred Capital

PI of NSF Funded USC REU Site on Robotics and Autonomous Systems, Summer 2021-2024. (indicates item is also listed under Service within USC)

Robot demonstration at Family Science Night of Synergy Academies high school in South Los Angeles, Spring 2023.

Introduced a robotics lab at the 12th grade Engineering Design and Development (EDD) capstone course of Synergy Academies high school in South Los Angeles, Spring 2023.

Annual USC Robotics Open House: Interactive demonstrations of our research to more than 1000 visitors from the local under-resourced minority-serving K-12 schools, 2018-present.

USC Viterbi Summer High School Intensive in Next-Generation Engineering (SHINE) program: Lectures to advanced high-school students in Summer 2019, mentored two high school students in Summer 2020, 2021.

Live Demonstration of Robotic Hair Brushing, NeurIPS 2019, The robot uses a camera to create a 3-D map of the back of a person's head and hair and then brushes the hair through a constrained motion.

*USC Viterbi Happy Thanksgiving Video, 2019

Research Presentation to Post-Stroke Patients, Rancho Los Amigos Rehabilitation Center, 2018.

Prior to joining USC

Live Demonstration of Shared Autonomy Control with VR Interface, presented to the Chief of Naval Research Rear Adm. David Hahn in July 2017.

Live Demonstration of HERB Sorting Colored Blocks, presented the demo at the Carnegie Science Center.

Live Demonstration of Automated Dining, presented the demo to Secretary Clinton in April 2016, https://youtu.be/ucD3YM_JhmM

Open Source Libraries

pyribs: A bare-bones Python library for quality diversity optimization, <https://pyribs.org>

Pyribs users (2022): Autodesk Research, Imperial College London Adaptive & Intelligent Robotics Lab, New York University Game Innovation Lab, Huawei Noah's Ark Lab, Ludwig Maximilian University of Munich Chair of Statistical Learning and Data Science, Southwestern University Department of Mathematics and Computer Science, University of Trento Distributed Intelligence and Optimization Lab, Lenia Research

Service within USC

Service to the CS Department

Student Selection Committee for Multiple Industry Fellowships, 2025.

Senior Faculty Hiring Committee, 2024-2025.

Associate Chair for Masters of Science (MS) Affairs, 2024-present.

Courtesy Appointment Committee, 2023-present.

Host Faculty Candidates, 2020-present.

PhD Admissions and Fellowship Committee, 2019, 2021.

Department Awards Committee, 2020-2023

Colloquium Committee, 2021-2023.

Area 4 (Vision, Robotics, Graphics & HCI) Fellowships Committee, 2023.

Merit Review Committee for Research Faculty, 2023.

Service to Viterbi School of Engineering

PI of NSF Funded USC REU Site on Robotics and Autonomous Systems, Summer 2021-2024

USC Viterbi Happy Thanksgiving Video, 2019, https://www.instagram.com/p/B5VV_Iol1WH/

Service to the University

Panelist at the Harman Academy seminar titled "Technology, Agency, and Values: A Polymathic Exploration of Autonomy in Humans and Machines.", 2020.

Media and Impact

Media Appearances and Interviews

Humans and robots: Stefanos Nikolaidis fosters anthro-machine collaboration in manufacturing :

Interviewed by Daily Trojan about my research in October 2022.

<https://dailytrojan.com/2022/10/04/humans-and-robots-stefanos-nikolaidis-fosters-anthro-machine-collaboration-in-manufacturing/>

STEAM: Meet A Robotics Engineer: Interviewed by CBS Los Angeles about my research on April 2021.

<https://losangeles.cbslocal.com/video/5492233-steam-meet-a-robotics-engineer/>

Print and Online Articles

(one indicative article for each topic)

RSS 2025 Marks Largest in History as Conference Returns to USC: *USC Viterbi News*, 2025.

<https://viterbischool.usc.edu/news/2025/07/rss-2025-marks-largest-in-history-as-conference-returns-to-usc/>

USC at ICRA 2025: *USC Viterbi News*, 2025.

<https://viterbischool.usc.edu/news/2025/05/usc-at-icra-2025/>

USC at NeurIPS 2024: *USC Viterbi News*, 2024.

<https://viterbischool.usc.edu/news/2024/12/usc-at-the-conference-on-neural-information-processing-systems-neurips-2024/>

USC at ICRA 2024: *USC Viterbi News*, 2024.

<https://viterbischool.usc.edu/news/2024/05/usc-researchers-unveil-robotics-breakthroughs-at-icra-2024/>

USC at ICLR 2024: *USC Viterbi News*, 2024.

<https://viterbischool.usc.edu/news/2024/05/usc-at-iclr-2024/>

New Robotic System Assesses Mobility After Stroke: *USC Viterbi News*, 2023.

<https://viterbischool.usc.edu/news/2023/11/new-robotic-system-assesses-mobility-after-stroke/>

Making better robots for humans: USC at CORL 2023: *USC Viterbi News*, 2023.

<https://viterbischool.usc.edu/news/2023/11/making-better-robots-for-humans-usc-at-corl-2023/>

Robots Predict Human Intention for Faster Builds : *USC Viterbi News*, 2023.

<https://viterbischool.usc.edu/news/2023/04/robots-predict-human-intention-for-faster-builds/>

USC at NeurIPS 2022: *USC Viterbi News*, 2022.

<https://viterbischool.usc.edu/news/2022/11/usc-at-neurips-2022/>

Stefanos Nikolaidis Receives Agilent Early Career Professor Award : *USC Viterbi News*, 2022.

<https://viterbischool.usc.edu/news/2022/07/stefanos-nikolaidis-receives-agilent-early-career-professor-award/>

Very good robot sidekick helped assemble a remote-controlled plane: *Mashable*, 2022.

<https://mashable.com/video/robot-builds-model-plane/>

USC Researchers Present 30 Papers at NeurIPS 2021: *USC Viterbi News*, 2021.

<https://viterbischool.usc.edu/news/2021/12/usc-researchers-present-30-papers-at-neurips-2021/>

SHINE 2021: 58 High School Students Actively Contribute To USC Viterbi Research: *USC Viterbi News*, 2021.

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On the Cutting Edge: USC at the Robotic Science and Systems (RSS) Conference: *USC Viterbi News*, 2021.

<https://viterbischool.usc.edu/news/2021/07/on-the-cutting-edge-usc-at-the-robotic-science-and-systems-rss-conference/>

Why Scientists Love Making Robots Build Ikea Furniture: *Wired*, 2021.

<https://www.wired.com/story/why-scientists-love-making-robots-build-ikea-furniture/>

USC at AAAI '21: Algorithmic Fairness, Electoral College Strategy, De-Biasing Machine Learning: *USC Viterbi News*, 2021.

<https://viterbischool.usc.edu/news/2021/02/usc-at-aaai-21-algorithmic-fairness-electoral-college-strategy-de-biasing-machine-learning/>

Showing Robots How to Drive a Car... In Just A Few Easy Lessons: *USC Viterbi News*, 2020.

<https://viterbischool.usc.edu/news/2020/11/showing-robots-how-to-drive-a-car-in-just-a-few-easy-lessons/>

Hair-Brushing Robot Shows How Artificial Intelligence May Help the Disabled: *Fortune*, 2019.

<https://fortune.com/2019/12/11/robot-hair-brushing-elderly/>

If You Want a Robot to Learn Better, Be a Jerk to It: *Wired*, 2019.

<https://www.wired.com/story/if-you-want-a-robot-to-learn-better-be-a-jerk-to-it/>

Prior to Joining USC

Automated Dining: IEEE Spectrum, IEEE The Institute.

Learning Human Types from Demonstrations: Harvard Business Review, KurzweilAI.

Human-Robot Cross-Training: MIT News, Discovery News, New York Times, ACM Tech News, New Scientist, Inc.

Invited Talks

Adaptation for Intuitive Human-Robot Collaboration, Agilent Technologies, Inc. 2024

Robust Human-Robot Teaming via Algorithmic Scenario Generation, RO-MAN 2024 Work- 2024
shop on Variable Autonomy for Human-Robot Teaming (VAT) in the Real World.

Enhancing the Robustness of Collaborative Manipulation Tasks, ICRA 2024 Workshop on 2024
Bimanual Manipulation: On Kitchen Challenges.

Algorithmic Scenario Generation for Robust Human-Machine Interaction, NDIA Human 2024
Systems Conference.

Enhancing the Efficiency and Robustness of Human-Robot Interactions, National Technical University of Athens. 2024

Algorithmic Scenario Generation as Quality Diversity Optimization, NeurIPS 2023 Agent Learning in Open-Endedness (ALOE) Workshop. 2023

Algorithmic Scenario Generation as Quality Diversity Optimization, Cedars-Sinai 2023 Symposium on "How can evolutionary algorithms help ML/AI". 2023

Algorithmic Scenario Generation as Quality Diversity Optimization, Georgia Tech GVU Brown Bag Seminar Series. 2023

Scenario Generation via Quality Diversity for Trustworthy AI, NeurIPS 2022 Workshop on Progress and Challenges in Building Trustworthy Embodied AI. 2022

Robot Adaptation for Efficient Human-Robot Collaboration, Southern California Robotics Symposium. 2022

Generating Diverse Content via Latent Space Illumination, RE-WORK Annual Deep Learning Summit San Francisco. 2022

Towards Robust Human-Robot Interaction: A Quality Diversity Approach, HRI'22: Workshop on Novel and Emerging Test Methods & Metrics for Effective HRI, HRI'22: Workshop on Fairness and Transparency in HRI: Algorithms, Methods and Metrics. 2022

Towards Robust Human-Robot Interaction: A Quality Diversity Approach, National University of Singapore, University of Washington CSE Robotics Colloquium, University of California Los Angeles (UCLA) ECE Department Seminar Series, University of Texas at Austin Forum for AI, Carnegie Mellon University (CMU) Robotics Institute Seminar Series, Harvard EconCS, University of Pennsylvania GRASP on Robotics Talk Series, Stanford University Robotics Seminar, Massachusetts Institute of Technology (MIT) Robotics Seminar, Cornell University Robotics Seminar, Apple AI and Machine Learning Research, Autodesk Research. 2021-2022

Towards Robust HRI: A Stochastic Optimization Approach, Georgia Institute of Technology, IRIM Seminar Series. 2021

Learning Physical Interactions From and With People, University of California, Riverside. 2020

Learning Collaborative Action Plans from YouTube Videos, 4th Workshop on Semantic Policy and Action Representations for Autonomous Robots (SPAR), IROS 2019. 2019

Robot Learning via Human Adversarial Games, Re-Work Deep Learning Summit. 2019

Robot Learning via Cooperative and Adversarial Games, USC Information Sciences Institute, AI Seminar. 2019

Interactive and Collaborative Autonomous Robotic Systems, HRI Program Committee Mini-Symposium. 2018

Prior to Joining USC

Mathematical Models of Adaptation in Human-Robot Collaboration, University of North Carolina at Chapel Hill, University of Maryland, College Park, University of Wisconsin-Madison, Northeastern University, Princeton University, University of California, Los Angeles, University of Southern California, Yale University. 2018

Game-Theoretic Modeling of Human Adaptation in Human-Robot Collaboration, RSS 2017 2017
Workshop on Mathematical Models, Algorithms, and Human-Robot Interaction .

Mutual Adaptation in Human-Robot Collaboration, Harvard University, Massachusetts Institute of Technology, Stanford University, University of Southern California, Georgia Institute of Technology, Princeton University, University of Texas at Austin, Cornell University, Brown University. 2017

Human-Robot Mutual Adaptation, RSS 2016 Workshop on Planning for Human-Robot Interaction. 2016

Human-Robot Cross-Training, HRI Pioneers, Northeastern University. 2013

Languages

Greek (native), English (full professional), Japanese (professional working), French (limited working), German (elementary)