THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Resume

FULL NAME: David Fridovich-Keil   **TITLE:**   Assistant Professor

DEPARTMENT: Aerospace Engineering and Engineering Mechanics

CONTACT INFORMATION

Department of Aerospace Engineering and Engineering Mechanics
The University of Texas at Austin
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EDUCATION

University of California, Berkeley	Electrical Engineering & Computer Sciences	Ph.D.	2020
Princeton University	Electrical Engineering	B.S.E.	2015

CURRENT AND PREVIOUS ACADEMIC POSITIONS

Assistant Professor, The University of Texas at Austin	August 2021 - present
Post-Doctoral Researcher, Stanford University	September 2020 - June 2021
Post-Doctoral Researcher, University of California, Berkeley	June 2020 - August 2020

OTHER PROFESSIONAL EXPERIENCE

Advisor, AeroVect Technologies Inc.   August 2023 - present
Motion planning, prediction, and control for autonomous airport vehicles.

Software Engineering Intern, Nuro Inc.   Summer 2018
Motion planning and prediction algorithm development for autonomous driving.

Software Engineering Intern, Applied Science & Technology Research Institute   Summer 2014
Image processing for consumer electronics.

Embedded Systems Intern, Sentinel Photonics   Summer 2013
Signal processing for lightweight, high-precision gas sensing.

HONORS AND AWARDS

NSF CAREER Award	2024
Demetri Angelakos Memorial Achievement Award	2020
Robotics: Science & Systems Pioneer	2019
Top Reviewer at NeurIPS	2019
Outstanding Graduate Student Instructor	2018
Charles Ira Young Memorial Prize	2015
G. David Forney Jr. Prize	2015
James Hayes-Edger Palmer Prize	2015
NSF Graduate Research Fellowship	2015

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES

Member, The Institute of Electrical and Electronics Engineers (IEEE)
Member, The American Institute of Aeronautics and Astronautics (AIAA)

PUBLICATIONS

Refereed Journal Publications in Rank as Assistant Professor[1]

J1 K. *Gupta*, R. Allen, D. <u>Fridovich-Keil</u>, and U. Topcu, "More Information is Not Always Better: Connections between Zero-Sum Local Nash Equilibria in Feedback and Open-Loop Information Patterns," *Control Systems Letters*, vol. 9, pp. 1405–1410, June 2025 pdf

J2 D. H. *Lee*, L. Peters, and D. <u>Fridovich-Keil</u>, "You Can't Always Get What You Want: Games of Ordered Preference," *Robotics and Automation Letters*, vol. 10, pp. 7182–7189, July 2025 pdf

J3 D. H. *Lee*, K. *Donnell*, M. Z. Li, and D. <u>Fridovich-Keil</u>, "A Convex Formulation of Game-theoretic Hierarchical Routing," *Control Systems Letters*, vol. 9, pp. 318–323, June 2025 pdf

J4 S. Agarwal*, H. *Khan**, S. Chinchali, and D. <u>Fridovich-Keil</u>, "A Framework for Finding Local Saddle Points in Two-Player Zero-Sum Black-Box Games," *Transactions on Machine Learning Research*, Accepted May 2025 pdf

J5 S. Chen, Y. E. Bayiz, D. <u>Fridovich-Keil</u>, and U. Topcu, "Relationship design for socially-aware behavior in static games," *Journal of Autonomous Agents and Multi-Agent Systems*, vol. 39, March 2025 pdf

J6 T. *Qiu* and D. <u>Fridovich-Keil</u>, "Inferring occluded agent behavior in dynamic games from noise-corrupted observations," *Robotics and Automation Letters*, vol. 9, pp. 11489–11496, November 2024 pdf

J7 J. Li, S. Sojoudi, C. **Tomlin**, and D. <u>Fridovich-Keil</u>, "The Computation of Approximate Feedback Stackelberg Equilibria in Multi-Player Nonlinear Constrained Dynamic Games," *SIAM Journal on Optimization*, vol. 34, pp. 3723–3749, December 2024 pdf

J8 J. *Im*, Y. Yu, D. <u>Fridovich-Keil</u>, and U. Topcu, "Coordination in Noncooperative Multiplayer Matrix Games via Reduced Rank Correlated Equilibria," *Control Systems Letters*, vol. 8, pp. 1637–1642, June 2024 pdf

J9 R. S. *Thakkar*, A. S. Samyal, D. <u>Fridovich-Keil</u>, Z. Xu, and U. Topcu, "Hierarchical control for cooperative teams in competitive autonomous racing," *IEEE Transactions on Intelligent Vehicles*, vol. 9, pp. 4845–4860, May 2024 pdf

J10 H. *Khan* and D. <u>Fridovich-Keil</u>, "Leadership inference for multi-agent interactions," *Robotics and Automation Letters*, vol. 9, pp. 4671–4678, March 2024 pdf

J11 R. S. *Thakkar*, A. S. Samyal, D. <u>Fridovich-Keil</u>, Z. Xu, and U. Topcu, "Hierarchical control for head-to-head autonomous racing," *Journal of Field Robotics*, vol. 4, pp. 46–69, February 2024 pdf

J12 L. Peters, A. Bajcsy, C.-Y. Chiu, D. <u>Fridovich-Keil</u>, F. Laine, L. Ferranti, and J. Alonso-Mora, "Contingency games for multi-agent interaction," *Robotics and Automation Letters*, vol. 9, pp. 2208–2215, January 2024 pdf

J13 L. Peters, V. Rubies-Royo, C. J. **Tomlin**, L. Ferranti, J. Alonso-Mora, C. Stachniss, and D. <u>Fridovich-Keil</u>, "Online and offline learning of player objectives from partial observations in dynamic games," *International Journal of Robotics Research*, vol. 42, pp. 917–937, June 2023 pdf

J14 F. Laine, D. <u>Fridovich-Keil</u>, C.-Y. Chiu, and C. **Tomlin**, "The computation of approximate generalized feedback Nash equilibria," *SIAM Journal on Optimization*, vol. 33, no. 1, pp. 294–318, 2023 pdf

J15 Y. Yu, J. *Salfity*, D. <u>Fridovich-Keil</u>, and U. Topcu, "Inverse matrix games with unique quantal response equilibrium," *Control Systems Letters*, vol. 7, pp. 643–648, October 2022 pdf

Refereed Journal Publications in Submission

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[1]<u>Underlines</u> identify myself, *italics* mark students and postdocs I supervise(d) or co-supervise(d) at UT, and **bold** marks PhD and postdoc advisors. Asterisks* indicate equal contribution.

SJ1 M. Choi, Y. Yang, N. P. Bhatt, K. *Gupta*, S. Shah, A. Rai, D. <u>Fridovich-Keil</u>, U. Topcu, and S. P. Chinchali, "Real-time privacy preservation for robot visual perception," *Transactions on Machine Learning Research*, Submitted July 2025

SJ2 H. *Khan* and D. <u>Fridovich-Keil</u>, "Act Natural! Extending Naturalistic Projection to Multimodal Behavior Scenarios," *Transactions on Intelligent Vehicles*, Submitted May 2025 pdf

SJ3 C. *Armstrong**, R. *Park**, X. *Liu*, K. *Gupta*, and D. <u>Fridovich-Keil</u>, "Inferring Foresightedness in Dynamic Noncooperative Games," *Robotics and Automation Letters*, Submitted April 2025 pdf

SJ4 N. *Strohmeyer*, S. Vishwanath, and D. <u>Fridovich-Keil</u>, "An Improved Redemption Pricing Mechanism for Crypto-Backed Stablecoins using Dynamic Games and Optimal Control," *ACM Distributed Ledger Technologies*, Submitted April 2025 pdf

SJ5 X. *Liu*, F. Fotiadis, J. Li, M. Karabag, J. Milzman, D. <u>Fridovich-Keil</u>, and U. Topcu, "Approximate Feedback Nash Equilibria with Sparse Inter-Agent Dependencies," in *IEEE Transactions on Automatic Control*, Submitted April 2025 pdf

SJ6 J. *Im*, F. Fotiadis, D. Delahaye, U. Topcu, and D. <u>Fridovich-Keil</u>, "Noncooperative Equilibrium Selection via a Trading-based Auction," *IEEE Transactions on Automatic Control*, Submitted February 2025 pdf

SJ7 M. O. Karabag, S. Smith, N. Mehr, D. <u>Fridovich-Keil</u>, and U. Topcu, "When Should a Leader Act Suboptimally? The Role of Inferability in Repeated Stackelberg Games," *IEEE Transactions on Automatic Control*, Submitted September 2024 pdf

Refereed Journal Publications Prior to Joining UT Austin

PJ1 E. Rolf*, D. <u>Fridovich-Keil</u>*, M. Simchowitz, B. Recht, and C. J. **Tomlin**, "A successive-elimination approach to adaptive robotic sensing," *IEEE Transactions on Robotics*, vol. 37, pp. 34–47, July 2020 pdf

PJ2 D. <u>Fridovich-Keil</u>*, A. Bajcsy*, J. F. Fisac, S. L. Herbert, S. Wang, A. D. Dragan, and C. J. **Tomlin**, "Confidence-aware motion prediction for real-time collision avoidance," *International Journal of Robotics Research*, vol. 29, June 2019 pdf

PJ3 R. Dobbe, O. Sondermeijer, D. <u>Fridovich-Keil</u>, D. Arnold, D. Callaway, and C. J. **Tomlin**, "Towards distributed energy services: Decentralizing optimal power flow with machine learning," *IEEE Transactions on Smart Grid*, vol. 11, pp. 1296–1306, August 2019 pdf

Refereed Conference Proceedings in Rank as Assistant Professor

C1 P. De Las Heras Molins*, E. Roy-Almonacid*, D. H. *Lee*, L. Peters, D. <u>Fridovich-Keil</u>, and G. Bakirtzis, "Approximate solutions to games of ordered preference," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, Accepted July 2025 pdf

C2 L. Yang, B. Werner, R. Cosner, D. <u>Fridovich-Keil</u>, P. Culbertson, and A. Ames, "SHIELD: Safety on Humanoids via CBFs In Expectation on Learned Dynamics," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Accepted June 2025 pdf video

C3 B. *Barkley* and D. <u>Fridovich-Keil</u>, "Stealing That Free Lunch: Exposing the Limits of Dyna-Style Reinforcement Learning," in *International Conference on Machine Learning (ICML)*, Accepted May 2025 pdf

C4 J. *Levy*, J. Gibson, B. Vlahov, E. Tevere, E. Theodorou, D. <u>Fridovich-Keil</u>, and P. Spieler, "Meta-learning online dynamics model adaptation in off-road autonomous driving," in *Robotics: Science and Systems (RSS)*, June 2025 pdf

C5 S. Swanbeck, D. I. Meza, J. Rosenbaum, D. <u>Fridovich-Keil</u>, and M. Pryor, "GaTORS: A Game-Theoretic Tool for Optimal Robot Selection and Design in Surface Coverage Applications," in *International Conference on Ubiquitous Robots (UR)*, July 2025 pdf

C6 C. Koprulu*, P. Li*, T. *Qiu**, R. Zhao, T. Westenbroek, D. <u>Fridovich-Keil</u>, S. Chinchali, and U. Topcu, "Dense dynamics-aware reward synthesis: Integrating prior experience with demonstrations," in *International Conference on Learning for Dynamics & Control (L4DC)*, June 2025 pdf

C7 W. Ward, Y. Yu, J. *Levy*, N. Mehr, D. <u>Fridovich-Keil</u>, and U. Topcu, "Active Inverse Learning in Stackelberg Trajectory Games," in *American Control Conference (ACC)*, July 2025 pdf

C8 I. Remy, D. <u>Fridovich-Keil</u>, and K. Leung, "Learning responsibility allocations for multi-agent interactions: A differentiable optimization approach with control barrier functions," in *American Control Conference (ACC)*, July 2025 pdf

C9 A. *López* and D. <u>Fridovich-Keil</u>, "Decomposing Control Lyapunov Functions for Efficient Reinforcement Learning," in *American Control Conference (ACC)*, July 2025 pdf

C10 J. *Hsin*, S. Agarwal, A. Thorpe, L. Sentis, and D. <u>Fridovich-Keil</u>, "Symbolic Regression on Sparse and Noisy Data with Gaussian Processes," in *American Control Conference (ACC)*, July 2025 pdf

C11 F. *Palafox**, J. Milzman*, D. H. *Lee*, R. *Park*, and D. <u>Fridovich-Keil</u>, "Smooth information gathering in two-player noncooperative games," in *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2025 pdf

C12 H. *Khan*, A. Thorpe, and D. <u>Fridovich-Keil</u>, "Act Natural! Projecting Autonomous System Trajectories Into Naturalistic Behavior Sets," in *IFAC Workshop on Cyber-Physical Human Systems (CPHS)*, December 2024 pdf

C13 J. *Levy**, T. Westenbroek*, and D. <u>Fridovich-Keil</u>, "Learning to walk from three minutes of real-world data with semi-structured dynamics models," in *Conference on Robot Learning (CoRL)*, November 2024 pdf

C14 Y. Yu, A. Thorpe, J. Milzman, D. <u>Fridovich-Keil</u>, and U. Topcu, "Sensing resource allocation against data-poisoning attacks in traffic routing," in *IEEE Conference on Decision and Control (CDC)*, December 2024 pdf

C15 X. *Liu**, L. Peters*, J. Alonso-Mora, U. Topcu, and D. <u>Fridovich-Keil</u>, "Auto-Encoding Bayesian Inverse Games," in *Workshop on the Algorithmic Foundations of Robotics (WAFR)*, October 2024 pdf

C16 F. *Palafox*, Y. Yu, and D. <u>Fridovich-Keil</u>, "Learning hyperplanes for multi-robot collision avoidance in space," in *AAS/AIAA Astrodynamics Specialist Conference*, August 2024 pdf

C17 B. *Barkley*, A. Zhang, and D. <u>Fridovich-Keil</u>, "An investigation of time reversal symmetry in reinforcement learning," in *International Conference on Learning for Dynamics & Control (L4DC)*, pp. 68–79, PMLR, July 2024 pdf

C18 M. O. Karabag, S. Smith, D. <u>Fridovich-Keil</u>, and U. Topcu, "Encouraging Inferable Behavior for Autonomy: Repeated Bimatrix Stackelberg Games with Observations," in *American Control Conference*, July 2024 pdf

C19 T. Wolf, D. <u>Fridovich-Keil</u>, and B. A. Jones, "Mutual information-based trajectory planning for cislunar space object tracking using successive convexification," in *AIAA SCITECH Forum*, January 2024 pdf

C20 J. Li, C.-Y. Chiu, L. Peters, F. *Palafox*, M. Karabag, J. Alonso-Mora, S. Sojoudi, C. **Tomlin**, and D. <u>Fridovich-Keil</u>, "Scenario-game ADMM: A parallelized scenario-based solver for stochastic noncooperative games," in *IEEE Conference on Decision and Control (CDC)*, December 2023 pdf

C21 S. Chen, Y. Yu, D. <u>Fridovich-Keil</u>, and U. Topcu, "Soft-Bellman Equilibrium in Affine Markov Games: Forward Solutions and Inverse Learning," in *IEEE Conference on Decision and Control (CDC)*, December 2023 pdf

C22 A. Patil, Y. *Zhou*, D. <u>Fridovich-Keil</u>, and T. Tanaka, "Risk-minimizing two-player zero-sum stochastic differential game via path integral control," in *IEEE Conference on Decision and Control (CDC)*, December 2023 pdf

C23 T. *Westenbroek*, J. *Levy*, and D. <u>Fridovich-Keil</u>, "Enabling efficient, reliable real-world reinforcement learning with approximate physics-based models," in *Conference on Robot Learning (CoRL)*, pp. 2478–2497, PMLR, November 2023 pdf

C24 J. Sun, S. Kousik, D. <u>Fridovich-Keil</u>, and M. **Schwager**, "Connected autonomous vehicle motion planning with video predictions from smart, self-supervised infrastructure," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, September 2023 pdf

C25 J. Li, C.-Y. Chiu, L. Peters, S. Sojoudi, C. J. **Tomlin**, and D. <u>Fridovich-Keil</u>, "Cost inference for feedback dynamic games from noisy partial state observations and incomplete trajectories," in *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, June 2023 pdf

C26 P. Washington, D. <u>Fridovich-Keil</u>, and M. **Schwager**, "GrAVITree: Graph-based approximate value function in a tree," in *American Control Conference (ACC)*, June 2023 pdf

C27 Y. Yu, S. Chen, D. <u>Fridovich-Keil</u>, and U. Topcu, "Cost design in atomic routing games," in *American Control Conference (ACC)*, June 2023 pdf

C28 S. Agarwal, D. <u>Fridovich-Keil</u>, and S. P. Chinchali, "Robust forecasting for robotic control: A game-theoretic approach," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2023 pdf

C29 M. O. Karabag, D. <u>Fridovich-Keil</u>, and U. Topcu, "Alternating direction method of multipliers for decomposable saddle-point problems," in *2022 58th Annual Allerton Conference on Communication, Control, and Computing*, IEEE, September 2022 pdf

C30 J. Sun, S. Kousik, D. <u>Fridovich-Keil</u>, and M. **Schwager**, "Self-supervised traffic advisors: Distributed, multi-view traffic prediction for smart cities," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, October 2022 pdf

C31 C.-Y. Chiu and D. <u>Fridovich-Keil</u>, "GTP-SLAM: Game-theoretic priors for simultaneous localization and mapping in multi-agent scenarios," in *IEEE Conference on Decision and Control (CDC)*, December 2022 pdf

C32 L. Peters, D. <u>Fridovich-Keil</u>, L. Ferranti, C. Stachniss, J. Alonso-Mora, and F. Laine, "Learning mixed strategies in trajectory games," in *Robotics: Science and Systems (RSS)*, July 2022 pdf

C33 D. R. Anthony, D. P. Nguyen, D. <u>Fridovich-Keil</u>, and J. F. Fisac, "Back to the future: Efficient, time-consistent solutions in reach-avoid games," in *IEEE International Conference on Robotics and Automation (ICRA)*, May 2022 pdf

C34 J. Li, D. <u>Fridovich-Keil</u>, S. Sojoudi, and C. **Tomlin**, "Augmented Lagrangian method for instantaneously constrained reinforcement learning problems," in *IEEE Conference on Decision and Control (CDC)*, December 2021 pdf

Refereed Conference Publications: In Submission

SC1 H. *Khan**, J. *Li**, and D. <u>Fridovich-Keil</u>, "What Do Agents Think Others Would Do? Level-2 Inverse Games for Inferring Agents' Estimates of Others' Objectives," in *AAAI Conference on Artificial Intelligence (AAAI)*, Submitted August 2025

SC2 K. *Gupta**, S. Murthy*, M. Karabag, U. Topcu, and D. <u>Fridovich-Keil</u>, "Cooperative Bargaining Games Without Utilities: Mediated Solutions from Direction Oracles," in *Advances in Neural Information Processing Systems (NeurIPS)*, Submitted May 2025 pdf

Refereed Conference Proceedings Prior to Joining UT Austin

PC1 L. Peters, D. <u>Fridovich-Keil</u>, V. Rubies-Royo, C. **Tomlin**, and C. Stachniss, "Inferring objectives in continuous dynamic games from noise-corrupted partial state observations," in *Robotics: Science and Systems (RSS)*, July 2021 pdf

PC2 D. <u>Fridovich-Keil</u> and C. J. **Tomlin**, "Approximate solutions to a class of reachability games," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2021 pdf

PC3 C.-Y. Chiu*, D. <u>Fridovich-Keil</u>*, and C. J. **Tomlin**, "Encoding defensive driving as a dynamic Nash game," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2021 pdf

PC4 F. Laine, D. <u>Fridovich-Keil</u>, C.-Y. Chiu, and C. J. **Tomlin**, "Multi-hypothesis interactions in game-theoretic motion planning," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2021 pdf

PC5 T. Westenbroek, E. Mazumdar, D. <u>Fridovich-Keil</u>, V. Prabhu, C. J. **Tomlin**, and S. S. Sastry, "Adaptive control for linearizable systems using on-policy reinforcement learning," in *IEEE Conference on Decision and Control (CDC)*, December 2020 pdf

PC6 D. <u>Fridovich-Keil</u>*, V. Rubies-Royo*, and C. J. **Tomlin**, "An iterative quadratic method for general-sum differential games with feedback linearizable dynamics," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2020 pdf

PC7 D. <u>Fridovich-Keil</u>, E. Ratner, L. Peters, A. D. Dragan, and C. J. **Tomlin**, "Efficient iterative linear-quadratic approximations for nonlinear multi-player general-sum differential games," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2020 pdf

PC8 L. Peters, D. <u>Fridovich-Keil</u>, C. J. **Tomlin**, and Z. Sunberg, "Inference-based strategy alignment for general-sum differential games," in *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2020 pdf

PC9 T. Westenbroek*, D. <u>Fridovich-Keil</u>*, E. Mazumdar*, S. Arora, V. Prabhu, S. S. Sastry, and C. J. **Tomlin**, "Feedback linearization for unknown systems via reinforcement learning," in *IEEE International Conference on Robotics and Automation (ICRA)*, June 2020 pdf

PC10 V. Rubies-Royo, D. <u>Fridovich-Keil</u>, S. L. Herbert, and C. J. **Tomlin**, "A classification-based approach for approximate reachability," in *IEEE International Conference on Robotics and Automation (ICRA)*, May 2019 pdf

PC11 S. L. Herbert*, A. Bajcsy*, D. <u>Fridovich-Keil</u>, J. F. Fisac, S. Deglurkar, A. D. Dragan, and C. J. **Tomlin**, "A scalable framework for real-time multi-robot, multi-human collision avoidance," in *IEEE International Conference on Robotics and Automation (ICRA)*, May 2019 pdf

PC12 D. <u>Fridovich-Keil</u>*, J. F. Fisac*, and C. J. **Tomlin**, "Safely probabilistically complete real-time planning and exploration in unknown environments," in *IEEE International Conference on Robotics and Automation (ICRA)*, May 2019 pdf

PC13 J. F. Fisac*, A. Bajcsy*, S. L. Herbert, D. <u>Fridovich-Keil</u>, S. Wang, C. J. **Tomlin**, and A. D. Dragan, "Probabilistically safe robot planning with confidence-based human predictions," in *Robotics: Science and Systems (RSS)*, June 2018 pdf

PC14 D. <u>Fridovich-Keil</u>*, S. L. Herbert*, J. F. Fisac, S. Deglurkar, and C. J. **Tomlin**, "Planning, fast and slow: A framework for adaptive real-time safe trajectory planning," in *IEEE International Conference on Robotics and Automation (ICRA)*, May 2018 pdf

PC15 R. Dobbe*, D. <u>Fridovich-Keil</u>*, and C. J. **Tomlin**, "Fully decentralized policies for multi-agent systems: An information theoretic approach," in *Advances in Neural Information Processing Systems (NeurIPS)*, pp. 2941–2950, December 2017 pdf

PC16 D. <u>Fridovich-Keil</u>, N. Hanford, M. P. Chapman, C. J. **Tomlin**, M. K. Farrens, and D. Ghosal, "A model predictive control approach to flow pacing for TCP," in *Allerton Conference on Communication, Control, and Computation*, pp. 988–994, October 2017 pdf

PC17 D. <u>Fridovich-Keil</u>, E. Nelson, and A. Zakhor, "AtomMap: A probabilistic amorphous 3D map representation for robotics and surface reconstruction," in *IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3110–3117, June 2017 pdf

Other Major Publications
M1 D. Fridovich-Keil, *Smooth Game Theory.* 2024 pdf

Software
W1 D. <u>Fridovich-Keil</u>, "MixedComplementarityProblems.jl," 2024 code

W2 D. <u>Fridovich-Keil</u>, "ILQGames: Iterative linear-quadratic games," 2019 code

W3 D. <u>Fridovich-Keil</u>, "FaSTrack: Fast and safe tracking," 2018 code

INVITED ORAL PRESENTATIONS[2]

O1 May 2025, "Variations on a Theme: Information Structure, Equilibria, and Dynamic Games," Control seminar, Georgia Tech

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[2]D. Fridovich-Keil was the sole presenter.

O2 May 2025, "Variations on a Theme: Information Structure, Equilibria, and Dynamic Games," Guest lecture, UCLA

O3 March 2025, "Auto-Encoding Bayesian Inverse Games," Computer Science department seminar, Vanderbilt University

O4 February 2025, "Auto-Encoding Bayesian Inverse Games," Guest lecture, UC San Diego video

O5 February 2025, "Auto-Encoding Bayesian Inverse Games," Guest lecture, UC Berkeley

O6 February 2025, "Auto-Encoding Bayesian Inverse Games," Robotics Seminar, University of Utah

O7 November 2024, "Auto-Encoding Bayesian Inverse Games," Guest lecture, University of Washington

O8 July 2024, "Information-Aware Algorithms for Smooth Dynamic Games," Robotics seminar, NASA Jet Propulsion Laboratory

O9 June 2024, "Information-Aware Algorithms for Smooth Dynamic Games," Distinguished Webinar in AI/Cyber, University of North Dakota

O10 May 2024, "Auto-Encoding Bayesian Inverse Games," Neuro-Symbolic Systems (NeuS) Conference, UC Berkeley

O11 April 2024, "Information-Aware Algorithms for Smooth Dynamic Games," GRASP seminar, Penn

O12 April 2024 "An Introduction to Trajectory Optimization," RBT 350 Guest lecture, UT Austin

O13 March 2024, "Inverse games: a MPEC by any other name...," Interactive Robotics Guest lecture, CMU

O14 December 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Workshop on Models and Algorithms for Path Planning, UT Austin

O15 December 2023, "Differential Games: A Brief History and Modern Developments," ASEN 6519 Guest lecture, CU Boulder

O16 November 2023, "An Introduction to Trajectory Optimization," RBT 350 Guest lecture, UT Austin

O17 October 2023, "Nested Optimization and Feedback Games," CMS 248 Guest lecture, Caltech

O18 September 2023, "Regulating a Digitally-Transformed NAS: A Game-Theoretic Perspective," Workshop on Clean Slate Approaches to Crewed and Uncrewed Air Traffic Operations, UC Berkeley

O19 September 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Robotics Seminar, University of Illinois–Urbana Champaign

O20 July 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Control-X Seminar, University of Washington

O21 June 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Robotics Seminar, Northeastern University

O22 May 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Robotics Seminar, TU Delft

O23 May 2023, "Dynamic Game Models for Multi-Agent Interactions: The Role of Information in Designing Efficient Algorithms," Robotics Seminar, Princeton University

O24 April 2023, "Dynamic Game Models for Multi-Agent Interactions: Forward and Inverse Solutions," Babuška Forum, Oden Institute, UT Austin

O25 November 2022, "Dynamic Game Models for Multi-Agent Interactions: Forward and Inverse Solutions," CMS/EC 248 Guest lecture, Caltech

O26 October 2022, "Dynamic Game Models for Multi-Agent Interactions: Forward and Inverse Solutions," Nuro video

O27 September 2022, "Mixing Continuous Strategies: A Case Study in Trajectory Games," Allerton, UIUC

O28 May 2022, "Learning Mixed Strategies in Lifted Trajectory Games," Autonomy Talks, ETH Zürich video

O29 May 2022, "What is Feedback, Really?" EE290 Guest lecture, UC Berkeley

O30 April 2022, "Learning to Compete: Efficient Solutions for Noncooperative Games," Texas Robotics Symposium, UT Austin

O31 April 2022, "Learning in Noncooperative Games: Efficient Algorithms and Open Challenges," Amazon Robotics

O32 November 2021, "A Brief Tour of Dynamic Games for Multi-Agent Modeling," Aerospace Engineering and Engineering Mechanics External Advisory Committee, UT Austin

O33 November 2021, "A Brief Tour of Dynamic Games for Multi-Agent Modeling," Aerospace Engineering Department Seminar, CU Boulder

O34 October 2021, "A Brief Tour of Dynamic Games for Multi-Agent Modeling," Control, Autonomy, and Robotics Seminar, UT Austin

O35 July 2021, "A Brief Tour of Dynamic Games for Multi-Agent Modeling," Workshop on Perception and Control for Autonomous Navigation in Crowded, Dynamic Environments, Robotics: Science & Systems video

O36 July 2021, Robotics Research Debate, Robotics: Science & Systems Pioneers Workshop.

O37 July 2021, "A Brief Tour of Dynamic Games for Multi-Agent Modeling," Semiautonomous Seminar, UC Berkeley.

O38 April 2021, "Parallelizable Methods for Multimodal Stochastic Optimal Control," NASA ULI Joint Meeting, Stanford.

O39 2019, "A Scalable Framework for Real-Time Multi-Robot, Multi-Human Collision Avoidance," Connected and Automated Vehicles, University of Michigan.

O40 2019, "Iterative Linear Quadratic Approximations for Nonlinear Differential Games," Robotic Manipulation and Interaction, UC Berkeley.

O41 2019, "Iterative Linear Quadratic Approximations for Nonlinear Multi-Player General-Sum Differential Games," Berkeley Artificial Intelligence Lab, UC Berkeley.

O42 2019, "Toward Robust Autonomy in Multi-Agent Safety-Critical Systems," DARPA Assured Autonomy Program, Northrop Grumman.

O43 2019, "Toward Robust Autonomy in Uncertain Safety-Critical Systems," Nuro.

O44 2019, "Toward Robust Autonomy in Uncertain Safety-Critical Systems," Postmates X.

David Fridovich-Keil, Assistant Professor
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