Jovana Kondic

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Education

Massachusetts Institute of Technology — *Cambridge, MA*

PhD in Electrical Engineering and Computer Science — *Current - December 2026*

- Advised by Prof. Aude Oliva

Massachusetts Institute of Technology — *Cambridge, MA*

MS in Electrical Engineering and Computer Science — *Sept 2021 - January 2024*

- Thesis topic: Monte Carlo Methods for Motion Planning and Goal Inference
- Coursework: algorithms for inference, deep reinforcement learning, robotic manipulation, smart control of decarbonized power systems

Princeton University — *Princeton, NJ*

BSE in Electrical Engineering; certificates in Cognitive Science, Robotics, and ML & Statistics — *Sept 2017 - June 2021*

- Thesis topic: Towards Socially Aware Robot Learning: Inferring Human Objectives and Latent Safety Preferences from Observations
- Coursework: safety-critical robotics, computational neuroscience, game theory, probability & stochastic systems, animal learning, embedded computing, biomechanics, moral philosophy

Research Experience

Computational Perception and Cognition Lab — *Cambridge, MA*

Massachusetts Institute of Technology — *April 2024 - current*

- Vision Language Models (VLMs) for synthetic data generation and chart understanding

MetaConscious Group — *Cambridge, MA*

Massachusetts Institute of Technology — *March 2023 - December 2023*

- Developed a brain-inspired memory architecture to facilitate long-horizon reasoning in LLM-powered agents in multi-agent environments

Algorithmic Alignment Group — *Cambridge, MA*

Massachusetts Institute of Technology — *September 2021 - February 2023*

- Implemented MC sampling algorithms for diversity-aware near-optimal motion planning and trajectory prediction

Safe Robotics Lab — *Princeton, NJ*

Princeton University — *September 2020 - May 2021*

- Proposed a framework for 1) multi-objective modeling of human behavior and 2) Bayesian inference of task objectives and risk tolerances in safety-critical human-robot interaction scenarios

Intelligent and Interactive Autonomous Systems Group — *Palo Alto, CA*

Stanford University — *June 2020 - Oct 2020*

- Achieved up to + 50% performance boost (compared to best baseline) in two-player coordination tasks, by helping develop a modular RL policy network that learns separate representations of task rules and partner-specific conventions

Work Experience

IBM Research/ MIT-IBM Watson AI Labs — *Cambridge, MA*

Research Intern — *June 2025 - August 2025*

- Co-led a chart understanding research project within the IBM Granite Vision Team, actively coordinating with 20+ researchers across 5 offices.

IBM Research/ MIT-IBM Watson AI Labs — *Cambridge, MA*

Research Intern — *June 2024 - August 2024*

- Designed and implemented a fully automated pipeline for large-scale, code-driven synthetic chart generation, enabling the creation of open-source chart understanding datasets that meet the scale requirements of foundation models (to be presented at ICCV 2025 workshop).

Massachusetts Institute of Technology — *Cambridge, MA*

Teaching Assistant — *October 2023 - December 2023*

- Collaboratively advised 14 student-led projects at the intersection of deep learning, Bayesian modeling, and neuroscience in course 9.58: *The Science of Intelligence* taught by Prof. Tomaso Poggio and Dr. Brian Cheung

Pillar VC — *Boston, MA*

Venture Research Associate — *May 2023 - September 2023*

- Identified and evaluated 8 potential investment opportunities within the applied ML sector through comprehensive market research and close collaboration with senior partners

Skills

Languages	English, Italian, German, Serbian
Programming & Planning Languages	Python, Julia*
Libraries & Toolboxes	Numpy, PyTorch
Platforms & Frameworks	Github, HuggingFace, Langchain*

* denotes limited experience

Publications & Workshop Proceedings

J. Kondic, P. Li, D. Joshi, I. Sanchez, B. Wiesel, S. Abedin, A. Alfassy, E. Schwartz, D. Caraballo, Y. G. Cinar, F. Scheidegger, S. I. Ross, D. K. I. Weidele, H. Hua, E. Arutyunova, R. Herzig, Z. He, Z. Wang, X. Yu, Y. Zhao, S. Jiang, M. Liu, Q. Lin, P. Staar, L. Lastras, A. Oliva, and R. Feris (2026). **ChartNet: A Million-Scale, High-Quality Multimodal Dataset for Robust Chart Understanding**. *CVPR*. Link to paper.

J. Kondic, P. Li, D. Joshi, Z. He, S. Abedin, J. Sun, B. Wiesel, E. Schwartz, A. Nassar, B. Wu, A. Arbelle, A. Oliva, D. Gutfreund, L. Karlinsky, and R. Feris (2025). **ChartGen: Scaling Chart Understanding Via Code-Guided Synthetic Chart Generation**. *ICCV Workshop on Graphic Design Understanding and Generation, ICCV Workshop on Curated Data for Efficient Learning*. Link to paper.

IBM Research Granite Vision Team (**J. Kondic** as Core Contributor) (2025). **Granite Vision: a lightweight, open-source multimodal model for enterprise Intelligence**. arXiv: 2502.09927 [cs.CV]. Link to paper.

S. Gao, A. Fang, Y. Huang, V. Giunchiglia, A. Noori, J. R. Schwarz, Y. Ektefaie, **J. Kondic**, and M. Zitnik (2024). **Empowering biomedical discovery with AI agents**. *Cell* 187.22, pp. 6125–6151. ISSN: 0092-8674. DOI: https://doi.org/10.1016/j.cell.2024.09.022. Link to paper.

K. I. Zhao, M. Naim, **J. Kondic**, M. Ernesto Cortes, J. Ge, S. Luo, G. R. Yang, and A. Ahn (2024). **Lyfe Agents: Generative Agents for Low-Cost Real-Time Social Interactions**. *ArXiv*. Link to paper.

J. Ge, K. Zhao, M. Ernesto Cortes, **J. Kondic**, S. Luo, M. Naim, A. Ahn, and G. R. Yang (2024). **Enhancing Understanding in Generative Agents through Active Inquiring**. *NeurIPS Workshop on Intrinsically-Motivated and Open-Ended Learning*.

T. Zhi-Xuan, **J. Kondic**, S. Slocum, J. B. Tenenbaum, V. K. Mansinghka, and D. Hadfield-Menell (2023). **Bayesian Inverse Motion Planning for Online Goal Inference in Continuous Domains**. *ICRA Workshop on Cognitive Modeling in Robot Learning for Adaptive Human-Robot Interactions*. Link to paper.

A. Shih, A. Sawhney, **J. Kondic**, S. Ermon, and D. Sadigh (2021). **On the Critical Role of Conventions in Adaptive Human-AI Collaboration**. *ICLR*. Link to paper.

Y. Liu, A. G. Domel, S. A. Yousefsani, **J. Kondic**, G. Grant, M. Zeineh, and D. B. Camarillo (2020). **Validation and Comparison of Instrumented Mouthguards for Measuring Head Kinematics and Assessing Brain Deformation in Football Impacts**. *Annals of Biomedical Engineering* 48. Link to paper.

Awards

2025	**MIT-IBM Watson AI Lab Graduate Research Assistanship,** supporting one year of fully funded doctoral research in AI	*MIT*
2021	**Hewlett Packard Fellowship,** merit-based award in the amount of $90,154	*MIT*
2021	**Sigma Xi Honors Society,** inducted to the academic honors society for scientific research	*Princeton*
2020	**Stanford Summer Undergraduate Research Fellowship,** selected as one of 16 awardees from a pool of international applicants to participate in a fully-funded summer research program at Stanford	*Stanford*
2014	**Google Science Fair,** regional finalist	*Google*

Service & Leadership

2025	**Co-organizer @ ICCV Workshop,** co-hosted the First Workshop on Memory and Vision at ICCV 2025	*MIT*
2024	**Mentor @ Undergraduate Research Opportunities Program,** advising a student over the course of a semester on a project focused on evaluating large language model reasoning	*MIT*
2023	**Executive Board member @ Graduate Application Assistance Program,** led operations of departmental initiatives providing application guidance to students from underrepresented backgrounds	*MIT*
2020	**Teaching Assistant @ Princeton EE/ Keller Center,** collaborated with faculty to implement innovative teaching methods resulting in improved student retention and success	*Princeton*
2020	**Peer Mentor @ Computer Science Council,** guided first-year students through curriculum planning and academic support	*Princeton*
2019	**Mentor @ Society of Women Engineers,** engaged in panel discussions aimed at inspiring high school students to consider careers in STEM fields	*Princeton*