

Curriculum Vitae

Raj Korpan

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1. Research Interests

Human-robot collaboration, explainable artificial intelligence, autonomous robot navigation, cognitive modeling, metareasoning, machine learning, data science, and statistical analysis

2. Education

- **Ph.D., Computer Science**, The Graduate Center, City University of New York, 2021.
 - Thesis: Metareasoning, Opportunistic Exploration, and Explanations for Autonomous Indoor Navigation
 - Advisor: Dr. Susan L. Epstein
- **M.S., Statistics**, Baruch College, City University of New York, 2015.
- **B.S., Economics & Finance**, Bentley University, 2010.

3. Employment History

3.1. Academic Positions

- **Assistant Professor**, Department of Computer Science, Hunter College, CUNY, 2023-present.
- **Doctoral Faculty**, Computer Science and Data Science, The Graduate Center, CUNY, 2024-present.
- **Assistant Professor**, Department of Computer Science, Iona University, 2021-2023.
- **Adjunct Instructor**, Department of Computer Science, Hunter College, CUNY, 2017-2021.
- **Graduate Research Assistant**, Machine Learning and Problem Solving Laboratory, Hunter College, CUNY, 2015-2021.
- **Graduate Assistant**, Statistical Consulting Laboratory, Baruch College, CUNY, 2014-2015.

3.2. Industrial Positions

- **Technology and Financial Consultant**, 2013-2015.
- **Technology Associate**, Global Investment Banking Technology, JPMorgan Chase, 2012-2013
- **Operations Analyst**, Commercial Banking Loan Operations & Technology, JPMorgan Chase, 2010-2012
- **Intern**, Corporate Finance Operations, CIT Group, 2008, 2009.

4. Awards and Fellowships

- **2023-2024 Hunter Travel Award**, Hunter College, CUNY, 2024.
- **Student-Faculty Research Initiative Award**, Hunter College, CUNY, 2023.
- **Best Paper Award**, ACM Conference on Fairness, Accountability, and Transparency, 2023.
- **Hynes Faculty Fellowship Program** (unable to accept), Iona University, 2023.
- **Upsilon Pi Epsilon**, the International Computer Science Honor Society, Iona University, 2022.
- **Commencement Speaker** on behalf of graduating students from 2020, 2021, and 2022, The Graduate Center, CUNY, 2022.

- **Graduate Center Dissertation Showcase Award**, The Graduate Center, CUNY, 2021.
- **Doctoral Student Research Grant**, The Graduate Center, CUNY, 2018.
- **Dr. Lennihan Arts & Sciences Grant**, The Graduate Center, CUNY, 2018.
- **Ernesto Malave Merit Scholarship**, CUNY University Student Senate, 2017.
- **Five-year Tuition Fellowship**, The Graduate Center, CUNY, 2015-2020.
- **Two-year Science Fellowship**, The Graduate Center, CUNY, 2015-2017.
- **Award for Excellence in Statistics**, Baruch College, CUNY, 2015.
- **Bentley President’s Scholarship**, Bentley University, 2007-2010.
- **Financial Management Association Honor Society**, 2010.
- **President’s List and Dean’s List Honors**, Bentley University, 2007, 2008, 2009, 2010.

5. Research Grants

5.1. Under Review

1. “Participatory Design of a Human-AI Trust Measure: Integrating Security and Social Justice Principles”. Agency: Google CyberNYC; Role: Principal Investigator; 2024
2. “CRII: HCC: RUI: Participatory Design of Explanations for Trust in Socially Aware Robot Navigation”. Agency: National Science Foundation; Role: Principal Investigator; 2023
3. “Cognitively-Based Social Robot Navigation”. Agency: PSC-CUNY Award Program, Research Foundation of CUNY; Role: Principal Investigator; 2023

6. Publications and Invited Talks

6.1. Journal and Magazine Articles

1. Korpan, Raj, and Epstein, Susan L. What it Takes to Get There: Spatial Cognition and Autonomous Indoor Robot Navigation. *International Journal of Social Robotics*. *In Submission*.
2. Korpan, Raj, Ray, Ruchira, Sipos, Andrea, Dennler, Nathan, Parks, Max, Cabrera, Maria E., and Martín-Martín, Roberto. Launching Queer in Robotics. *IEEE Robotics & Automation Magazine*. *Accepted for Publication*.
3. Williams, Tom, Matuszek, Cynthia, Jokinen, Kristiina, Korpan, Raj, Pustejovsky, James, and Scassellati, Brian. 2023. Voice in the Machine: Ethical Considerations for Language-Capable Robots. *Communications of the ACM*. Volume 66, Issue 8.

6.2. Conferences

4. Korpan, Raj, Eguchi, Amy, Han, Zhao, Ostrowski, Anastasia K., Ravindranath, Sindhu, and Tanevska, Ana. 2024. 3rd Workshop on Inclusive HRI: Equity and Diversity in Design, Application, Methods, and Community. In *Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction (HRI '24)*. Association for Computing Machinery, New York, NY, USA.
5. Ovalle, Anaëlia, Subramonian, Arjun, Singh, Ashwin, Voelcker, Claas, Sutherland, Danica J., Locatelli, Davide, Breznik, Eva, ..., Korpan, Raj, et al. 2023. Queer In AI: A Case Study in Community-Led Participatory AI. In *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT 2023)*. **(Best Paper Award Winner)**
6. Tanevska, Ana, Chandra, Shruti, Barbareschi, Giulia, Eguchi, Amy, Han, Zhao, Korpan, Raj, Ostrowski, Anastasia K., Perugia, Giulia, Ravindranath, Sindhu, Seaborn, Katie, and Winkle, Katie. 2023. Inclusive HRI II: Equity and Diversity in Design, Application, Methods, and Community. In *Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction (HRI '23)*. Association for Computing Machinery, New York, NY, USA, 956–958.

7. [Korpan, Raj](#), and Epstein, Susan L.. 2021. Hierarchical Freespace Planning for Navigation in Unfamiliar Worlds. In *Proceedings of the 31st International Conference on Automated Planning and Scheduling (ICAPS 2021)*.
8. Epstein, Susan L., and [Korpan, Raj](#). 2019. Planning and Explanations with a Learned Spatial Model. In *Proceedings of the 14th International Conference on Spatial Information Theory (COSIT 2019)*, Regensburg, Germany.
9. Aroor, Anoop, Epstein, Susan L., and [Korpan, Raj](#). 2018. Online Learning for Crowd-sensitive Path Planning. In *Proceedings of the 17th International Conference on Autonomous Agents and Multiagent Systems, AAMAS 2018*, Stockholm, Sweden, International Foundation for Autonomous Agents and Multiagent Systems. **(Best Robotics Paper Award Nominee)**

6.3. Workshops and Symposia

10. [Korpan, Raj](#). 2024. Towards a Participatory and Social Justice-Oriented Measure of Human-Robot Trust. In *Notes from the 2024 Workshop on Trust in Human-Robot Interaction (HRI 2024)*.
11. [Korpan, Raj](#). 2023. VBMO: Voting-Based Multi-Objective Path Planning. In *Notes from the First International Workshop on Search and Planning with Complex Objectives (IJCAI 2023)*.
12. [Korpan, Raj](#). 2023. Trust in Queer Human-Robot Interaction. In *Notes from the SCRITA 2023 Workshop on Trust, Acceptance and Social Cues in Human-Robot Interaction (IEEE RO-MAN 2023)*.
13. [Korpan, Raj](#), and Epstein, Susan L.. 2021. Contrastive Natural Language Explanations for Multi-Objective Path Planning. In *Proceedings of the International Workshop of Explainable AI Planning (XAIP) (ICAPS 2021)*.
14. [Korpan, Raj](#), and Epstein, Susan L.. 2021. Plan Explanations that Exploit a Cognitive Spatial Model. In *Proceedings of the Second International Combined Workshop on Spatial Language Understanding and Grounded Communication for Robotics (ACL-IJCNLP 2021)*.
15. Epstein, Susan L., and [Korpan, Raj](#). 2020. Metareasoning and Path Planning for Autonomous Indoor Navigation. In *Proceedings of the Workshop on Integrated Execution (IntEx) / Goal Reasoning (GR) (ICAPS 2020)*.
16. [Korpan, Raj](#), and Epstein, Susan L. 2018. Toward Natural Explanations for a Robot's Navigation Plans. In *Notes from the Workshop on Explainable Robotic Systems (HRI 2018)*, Chicago, IL.
17. [Korpan, Raj](#), Epstein, Susan L., Aroor, Anoop, and Dekel, Gil. 2017. WHY: Natural Explanations from a Robot Navigator. In *Proceedings of AAAI Fall Symposium on Natural Communication for Human-Robot Collaboration*, Arlington, VA.
18. Aroor, Anoop, Epstein, Susan L., and [Korpan, Raj](#). 2017. MengeROS: A Crowd Simulation Tool for Autonomous Robot Navigation. In *Proceedings of AAAI Fall Symposium on Artificial Intelligence for Human-Robot Interaction*, Arlington, VA, AAAI.

6.4. Preprints

19. Kennington, Casey, Alikhani, Malihe, Pon-Barry, Heather, Atwell, Katherine, Bisk, Yonatan, Fried, Daniel, Gervits, Felix, Han, Zhao, Inan, Mert, Johnston, Michael, [Korpan, Raj](#), et al. 2024. Dialogue with Robots: Proposals for Broadening Participation and Research in the SLIVAR Community. *arXiv preprint arXiv:2404.01158*.
20. [Korpan, Raj](#), and Epstein, Susan L. 2020. Deliberate Exploration Supports Navigation in Unfamiliar Worlds. *arXiv preprint arXiv:2007.00798*.

6.5. Invited Talks and Panels

1. Research panel talk titled "Advancing Public Interest Technology: Inclusive Robotics & Artificial Intelligence", Fordham Public Interest Tech Gathering, 2024.

2. Talk titled “Pedagogical Strategies for the Senior Capstone: Bridging Knowledge and Practice”, CUNY Teaching & Learning Conference, 2024.
3. Panelist, ChatGPT Faculty Panel Discussion, Iona University, 2023.
4. Presented talk titled “Queer in AI: Cultivating a Minority Community in your Profession” at the Iona University Diversity Conference, 2022.
5. Presented lecture titled “Cognition, Artificial Intelligence, and Robotics: Can we create machines that think, reason, and learn?” to Learning in Retirement at Iona College (LIRIC), 2022.

7. Leadership and Service

7.1. Leadership

1. Volunteer Service
 - 1.1. Founding Organizer, Queer in Robotics, 2023-present.
 - 1.2. Core Organizer, Queer in AI, 2022-present.
 - 1.3. Head Judge for Software and Robotics, Terra New York City STEM Fair, 2023, 2024.
2. Student Organizations
 - 2.1. Co-Chair for Business, Doctoral and Graduate Students’ Council, The Graduate Center, CUNY, 2018-2020.
 - 2.2. Treasurer, Computer Science Students’ Association, The Graduate Center, CUNY, 2016-2019.
 - 2.3. Officer for Funding, Doctoral and Graduate Students’ Council, The Graduate Center, CUNY, 2017-2018.
 - 2.4. Founder and Treasurer, Baruch Graduate PRIDE Society, Baruch College, CUNY, 2014-2015.
 - 2.5. Treasurer, Allocation and Internal Audit Committee, Bentley University, 2008-2009.
 - 2.6. Executive Board Member, Bentley Model United Nations, Bentley Debate Society, Bentley Literary Society, Bentley Democrats, Bentley University, 2007-2010.

7.2. University Service

1. Search Committees
 - 1.1. Computer Science Faculty Search Committee, Iona University, 2021-2022.
 - 1.2. Provost Search Committee, The Graduate Center, CUNY, 2021.
 - 1.3. President Search Committee, The Graduate Center, CUNY, 2019.
2. Faculty Representation
 - 2.1. Graduate Council, The Graduate Center, CUNY, 2024-present.
 - 2.2. Hunter College Senate, Hunter College, CUNY, 2023-present.
 - 2.3. Faculty Senate, Iona University, 2022-2023.
 - 2.4. Committee on Academic Affairs, Iona University, 2022-2023.
 - 2.4.1. Chair, Transfer Credit Policy Subcommittee, 2023.
 - 2.4.2. Chair, Bylaws and Procedures Subcommittee, 2022.
 - 2.5. Co-Moderator, Computer Science Student Club, Iona University, 2021-2023.
 - 2.6. ABET Accreditation Committee, Iona University, 2021-2022.
 - 2.7. Core Curriculum Assessment Committee, Iona University, 2022.
 - 2.8. Academic Standing Committee, Iona University, 2022.
3. Student Representation
 - 3.1. Budget Committee, The Graduate Center, CUNY, 2020-2021.
 - 3.2. Faculty/Student Disciplinary Panel and Student Academic Appeals Committee, The Graduate Center, CUNY, 2018-2021.

- 3.3. Doctoral and Graduate Students' Council, The Graduate Center, CUNY, 2016-2021.
 - 3.3.1. Constitution and Bylaws Committee, 2018-2020
 - 3.3.2. Grants Committee, Chair: 2017-2018, Member: 2016-2017, 2018-2021.
 - 3.3.3. Governance Task Force, 2016-2017, 2018-2020
 - 3.3.4. Committee for Gender Neutral Bathrooms, 2015-2016
- 3.4. Executive Committee, Computer Science Department, The Graduate Center, CUNY, 2016, 2017-2018, 2020-2021
- 3.5. Student Technology Fee Committee, The Graduate Center, CUNY, 2016-2018, 2020-2021.
- 3.6. Middle States Accreditation Site Visit, The Graduate Center, CUNY, 2020.
- 3.7. Strategic Planning and Implementation Committee, The Graduate Center, CUNY, 2019.
- 3.8. Graduate Council, The Graduate Center, CUNY, 2016-2021.
 - 3.8.1. Committee on Committees, 2018-2020.
 - 3.8.2. Curriculum and Degrees Committee, 2017-2021.
 - 3.8.3. Information Technology Committee, 2017-2019.

7.3. External Service

1. Workshops and Events Organized

- 1.1. "3rd Workshop on Inclusive HRI: Equity and Diversity in Design, Application, Methods, and Community" at the ACM/IEEE International Conference on Human-Robot Interaction, 2024.
- 1.2. Queer in Robotics Social Event at the ACM/IEEE International Conference on Human-Robot Interaction, 2024.
- 1.3. Queer in Robotics Welcome Event at the IEEE/RSJ International Conference on Intelligent Robots and Systems, 2023.
- 1.4. Data Science Symposium, Iona University, 2023.
- 1.5. Workshop on "Inclusive HRI II: Equity and Diversity in Design, Application, Methods, and Community" at the ACM/IEEE International Conference on Human-Robot Interaction, 2023.
- 1.6. Queer in AI session in the Diversity and Inclusion Program of the AAAI Conference on Artificial Intelligence, 2022, 2023.
- 1.7. Queer in AI session in the Diversity and Inclusion Activities of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2022.

2. Program Committee

- 2.1. International Symposium on Technological Advances in Human-Robot Interaction (TAHRI), 2024.

3. Paper Reviewer

- 3.1. International Conference on Automated Planning and Scheduling (ICAPS), 2024.
- 3.2. NeurIPS, 2023.
- 3.3. XAI in Action Workshop at NeurIPS, 2023.
- 3.4. Cognitive Science Conference (CogSci), 2018, 2019, 2020, 2021, 2022, 2023, 2024.
- 3.5. Queer in AI Workshop at ACL & NAACL, 2022, 2023.
- 3.6. International Conference on Robotics and Automation (ICRA), 2019, 2021.

4. Volunteer Work

- 4.1. Volunteer Judge, New York City Science and Engineering Fair, 2017, 2019, 2021, 2022, 2023, 2024.
- 4.2. Judge, CUNY Tech Prep Hackathon, 2023.
- 4.3. Mentor, Iona University MOSAIC Mentorship Program, 2021.
- 4.4. Student Volunteer, International Joint Conference on Artificial Intelligence (IJCAI), 2016.
- 4.5. Student Volunteer, International Conference on Machine Learning (ICML), 2016.

5. Workshop Participation

- 5.1. CRA Career Mentoring Workshops - Teaching and Research, 2024.
- 5.2. BMCC/Hunter Faculty Development Program: Asian American Students in the City: Considerations for the CUNY Classroom and Beyond, 2024.
- 5.3. Broader Impacts Writing Workshop, City College, CUNY, 2024.
- 5.4. Level Up Workshop on inclusive undergraduate computing education, 2023.
- 5.5. Dialogue with Robots Workshop at University of Pittsburgh, 2023.
- 5.6. SLIVAR (Special Interest Group for Spoken Language Interaction with Virtual Agents and Robots) Workshop Series, 2021-2022.
- 5.7. Anti-Racism Teaching and Learning Workshop, Iona University, 2021.
- 5.8. Data on the Mind Workshop at University of California, Berkeley, 2017.
- 5.9. Summer School on Cognitive Robotics at Massachusetts Institute of Technology (MIT), 2017.

8. Student Research and Advising

1. Undergraduate Supervised Research: Sami Chen, Project title: "Effectiveness of Explanations on Understanding Robot Behavior", Poster presented at Hunter College Undergraduate STEM+ Research Conference and CUNY Undergraduate Research Celebration Day, 2024-present.
2. Undergraduate Supervised Research: Isaac Waters and Georgina Woo, Project title: "Robot Navigation in Unfamiliar Human-Centric Environments", Poster presented at Hunter College Undergraduate STEM+ Research Conference, 2024-present.
3. Undergraduate Supervised Research: Eric Guan and Jessie Lin, Project title: "Ease of Following a Cognitively-Based Robot Navigator", 2024-present.
4. Undergraduate Supervised Research: Rodney Daniel and Saim Imran, Project title: "Consciousness in Large Language Models", 2024-present.
5. Undergraduate Supervised Research: Daniel Merino, Project title: "Voting-based Metaheuristic Multi-Objective Graph Search Algorithms", 2023-present.
6. Undergraduate Honors Thesis: Melville Lipton, Proposal titled "Classifying Professional Basketball Strategies Using Machine Learning", 2022-2023.
7. Masters Thesis: Eliza Verghese, titled "Using Heart rate and Emotion Recognition to Identify True Emotions", 2022-2023.
8. Undergraduate Honors Thesis: Sergey Karpov, titled "Supervised Text Simplification with Aspect Extraction", 2021-2023.
9. Undergraduate Honors Thesis: Brandon Gianni, titled "NorthApp: A Mobile Indoor Navigation Application", 2021-2022.

9. Courses Taught

9.1. Hunter College, CUNY

1. CSCI 121: Computers and Money (2017, 2018, 2019, 2020)
2. CSCI 127: Introduction to Computer Science (2020)
3. CSCI 150: Discrete Structures Recitation (2018)
4. CSCI 499: Advanced Applications: Capstone for Majors (2020, 2021, 2023, 2024)

9.2. Iona University

1. CS 140: Computers, Technology and Society (2021)
2. CS 148: Data Science and Society (2022)
3. CS 201: Computer Science I (2021)

4. CS 301/600: Data Structures and Algorithms (2021, 2022, 2023)
5. CS 331/630: Theory of Programming Languages (2023)
6. CS 465/761: Data Mining (2022)
7. CS 481: Software Project Development: Design (2022)
8. CS 482: Software Project Development: Implementation (2023)

9. Curriculum Development

1. Developed and implemented CS 148: a new introductory data science course aimed at non-major freshmen at Iona University, 2022.
2. Developed CS 200: a novel project-oriented and interdisciplinary introduction to computer science course aimed at humanities and social science students at Iona University, 2023.

10. Membership in Professional Societies

1. Member, Association for the Advancement of Artificial Intelligence (AAAI), 2017-present.
2. Member, Cognitive Science Society, 2016-present.
3. Member, IEEE, 2015-present.
4. Member, Association for Computing Machinery (ACM), 2014-present.
5. Former Member, American Statistical Association (ASA), 2014-2022.