

Devesh K. JHA

Lead Research Scientist | Samsung Research America (SRA)

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EDUCATION

2010-2016	PhD. in Mechanical Engineering, Pennsylvania State University, University Park, PA
2012-2015	M.A. in Mathematics, Pennsylvania State University, University Park, PA
2012-2015	M.A. in Mechanical Engineering, Pennsylvania State University, University Park, PA
2006-2010	B.E. in Mechanical Engineering, Jadavpur University, Kolkata, India

WORK

Currently, I am a Lead Scientist at Samsung Research America (SRA), Mountain View. Previously, I was a Senior Principal Research Scientist at MERL where I was leading the effort on robotic manipulation at MERL setting up fundamental research direction as well as finding avenues for commercialization of matured technologies. I also had a brief stint as the co-founder of a robotics start-up where I built the manipulation-related AI strategy.

Apr 26 Present	Lead Research Scientist, RIL, SRA, MOUNTAIN VIEW, CA, > Multi-modal Foundation models for robotics > Learning from Ego-Videos ManipulationTactile SensingEgo-Centric VideosFoundation Models
Dec 25 Apr 26	AI Co-founder Stealth Startup (Manav Robotics), CAMBRIDGE, MA AND BENGALURU, INDIA, > Foundation models for robotics ManipulationWorld Action ModelsEgo-Centric VideosFoundation Models
April 2024 Nov 25	Senior Principal Research Scientist Mitsubishi Electric Research Labs, CAMBRIDGE, MA, > Dexterous manipulation > Imitation Learning (Diffusion Policies) > Foundation models for robotics ManipulationTactile SensingReinforcement LearningFoundation Models
April 2020 March 2024	Principal Research Scientist Mitsubishi Electric Research Laboratories, CAMBRIDGE, MA, US, > Manipulation Planning > Tactile Sensing > Dexterous Manipulation for Assembly > Learning from Demonstration ManipulationTactile SensingAssemblyInteractive Perception
May 2017 April 2020	Research Scientist Mitsubishi Electric Research Labs, CAMBRIDGE, MA, > Robot Learning > State representation learning for RL > Learning from Demonstration > Model-based RL Motion PlanningReinforcement LearningNavigation
Oct 2016 April 2017	Visiting Research Scientist Mitsubishi Electric Research Labs, CAMBRIDGE, MA, > Robot Learning > Model-based RL ManipulationReinforcement Learning
June 2015 Aug 2015	Research Intern Mitsubishi Electric Research Labs, CAMBRIDGE, MA, > Motion Planning for Autonomous Parking Motion Planning

RESEARCH INTERESTS

I am interested in developing physical intelligence for robotic manipulation. With this goal, I have been working on various techniques and algorithms to enable dexterous manipulation. Some techniques of interest to me are– Contact Implicit Trajectory Optimization, Tactile Sensing, Reinforcement Learning. More recently, I have been interested in designing more flexible systems using recent developments in Foundation Models.

Dexterous Manipulation	I am interested in developing dexterous skills for robots. I have been working on various techniques for manipulation including Contact-Implicit Trajectory Optimization, tactile sensing, robot learning and Foundation Models. I have been mainly looking into applications related to industrial automation such as robotic assembly.
RL for Robot Learning	I have been working on data efficient algorithms for robotics as well as applications of robot learning for hard robotics problems such as assembly.
Foundation Models for Robotics	I have been working on use of pre-trained foundation models (LLM, VLM) for various tasks such as planning & learning control to simplify design of robotic controllers.
Learning from Demonstration	I have been working on algorithms for LfD such as Diffusion Policies as well as DMPs, etc.
Motion and Path Planning	I have been working on various algorithmic formulations for motion and path planning of robots

SELECT HONORS AND AWARDS

- 2025 **MERL Director's Award** for Physics-aware ML for Anomaly Detection in Robots.
- 2024 **Head of CR&D Award** (highest award for any individual by Corporate R&D of MELCO) for development of human-level manipulation technologies for Robotic Assembly.
- 2023 **Honorable Mention Award** at NeurIPS 2023 Workshop on Instruction Tuning and Instruction Following.
- 2023 **Best Poster Award** at IEEE ICRA23 Workshop on Embracing Contacts: Making Robots Physically Interact with our World
- 2022 **MERL Presidents Award 2022** for exceptional work in robotic manipulation for food handling in FY21.
- 2021 **Senior Membership**, IEEE, March 2021.
- 2019 **Rudolf Kalman Best Paper Award 2019** by the ASME DSCD for the paper on the use of Bayesian Filtering for imitation learning in robotic systems. Paper title, **Imitation of Demonstrations using Bayesian Filtering with Nonparametric Data-Driven Models**.
- 2019 **MERL Directors Award 2019** for exceptional work for the use of Deep Neural Networks for design of photonic devices in FY 18.
- 2018 **Head of CR&D Award** (highest award for any individual by Corporate R&D of MELCO) for outstanding work in using AI for control of equipments for FY 2017.
- 2018 **MERL Director's Award 2018** for exceptional work in Robot Learning for FY 2017.
- 2016 **Best Student Paper Award** at 1st ACM SIGKDD Workshop on Machine Learning for Prognostics and Health Monitoring at KDD 2016, San Francisco, CA.
- 2013 **Travel Grant from IEEE** for American Control Conference, 2015 and ASME, DSCD for ASME DSCC 2013.
- 2010 **Three gold medals for academic excellence in Mechanical Engineering Undergraduate Class of 2010**, Jadavpur University, Kolkata, India.
- 2009 **Best Student of the Year Award** for the year 2009 in Mechanical Engineering Undergraduate Class of 2010, Jadavpur University, Kolkata, India.

REFEREED CONFERENCE PUBLICATIONS

* *equal first-authorship* † *under submission*

- C59. **IMBENCH: A BENCHMARK FOR INTUITIVE ROBOTIC MANIPULATION.** CoRL 2026†
A. Maurya, DKJ, et al.
- C58. **TiToC: LANGUAGE-GUIDED TACTILE POLICIES FOR TIGHT TOLERANCE CONNECTOR INSERTION.** RSS 2026†
C. Xing, S. Yao DKJ and D. Romeres.
- C57. **PPGUIDE: STEERING DIFFUSION POLICIES WITH PERFORMANCE PREDICTIVE GUIDANCE.** ICRA 2026
Z. Wang, DKJ and D. Romeres.
- C56. **FIND THE FRUIT: DESIGNING A ZERO-SHOT SIM2REAL DEEP RL PLANNER FOR OCCLUSION AWARE PLANT MANIPULATION.** ICRA 2026

N. Subedi, H. Yang, **DKJ** and S. Sarkar.

- C55. **MODALITY SELECTION AND SKILL SEGMENTATION VIA CROSS-MODALITY ATTENTION.** MVA 2025
Jiawei Jiang, Kei Ota, **DKJ**, Asako Kanezaki.
- C54. **RECOVERYCHAINING: LEARNING LOCAL RECOVERY POLICIES FOR ROBUST MANIPULATION.** IROS 2025
S. Vats, **DKJ**, O. Kromer, M. Likhachev and D. Romeres.
- C53. **ANALYTIC CONDITIONS FOR EFFICIENT COLLISION-AWARE TRAJECTORY OPTIMIZATION.** IROS 2025
Akshay Jaitly, Yuki Shirai, Kei Ota, and **DKJ**.
- C52. **IN-CONTEXT ITERATIVE POLICY IMPROVEMENT FOR DYNAMIC MANIPULATION.** CoRL 2025
M. Van der Merwe and **DKJ**.
- C51. **INTERACTIVE ROBOT ACTION REPLANNING USING MULTIMODAL LLM TRAINED FROM HUMAN DEMONSTRATION VIDEOS.** INTERSPEECH 2025
Chiori Hori, Motonari Kambara, Komei Sugiura, Kei Ota, Sameer Khurana, Siddarth Jain, Radu Corcodel, **DKJ**, Diego Romeres, Jonathan Le Roux.
- C50. **HIERARCHICAL CONTACT-RICH TRAJECTORY OPTIMIZATION FOR MULTI-MODAL MANIPULATION USING TIGHT CONVEX RELAXATIONS.** ICRA 2025
Y. Shirai, A. Raghunathan and **DKJ**.
- C49. **FINETUNING DIFFUSION POLICIES USING HUMAN PREFERENCES.** ICRA 2025
Y. Chen, **DKJ**, M. Tomizuka and D. Romeres.
- C48. **AUTONOMOUS ROBOTIC ASSEMBLY: FROM PART SINGULATION TO PRECISE ASSEMBLY.** IROS 2024
DKJ*, Kei Ota*, Siddarth Jain, Bill Yezounis, Radu Corcodel, Yash Shukla, Antonia Bronars, Diego Romeres.
- C47. **TACTILE ESTIMATION OF EXTRINSIC CONTACT PATCH FOR STABLE PLACEMENT.** ICRA 2024
Kei Ota, **DKJ**, Krishna Murthy Jatavallabhula, Asako Kanezaki, Joshua B. Tenenbaum.
- C46. **ROBUST IN-HAND MANIPULATION WITH EXTRINSIC CONTACTS.** ICRA 2024
Boyuan Liang, Kei Ota, Masayoshi Tomizuka, **DKJ**.
- C45. **MULTI-LEVEL REASONING FOR ROBOTIC ASSEMBLY: FROM SEQUENCE INFERENCE TO CONTACT SELECTION.** ICRA 2024
X. Zhu, **DKJ**, D. Romeres, L. Sun, M. Tomizuka and A. Cherian.
- C44. **INTERACTIVE PLANNING USING LARGE LANGUAGE MODELS FOR PARTIALLY OBSERVABLE ROBOTICS TASKS.** ICRA 2024
L. Sun, **DKJ**, C. Hori, S. Jain, R. Corcodel, X. Zhu, M. Tomizuka and D. Romeres.
- C43. **GENERALIZABLE HUMAN-ROBOT COLLABORATIVE ASSEMBLY USING IMITATION LEARNING AND FORCE CONTROL.** ECC 2023
DKJ, S. Jain, D. Romeres, W. Yezounis and D. Nikovski.
- C42. **STYLE-TRANSFER BASED SPEECH AND AUDIO-VISUAL SCENE UNDERSTANDING FOR ROBOT ACTION SEQUENCE ACQUISITION FROM VIDEOS.** INTERSPEECH 2023
Chiori Hori, Puyuan Peng, David Harwath, Xinyu Liu, Kei Ota, Siddarth Jain, Radu Corcodel, **DKJ**, Diego Romeres, Jonathan Le Roux.
- C41. **TACTILE-FILTER: INTERACTIVE TACTILE PERCEPTION FOR PART MATING.** RSS 2023
Kei Ota, **DKJ**, Hsiao-Yu Tung, Joshua B Tenenbaum.
- C40. **SIMULTANEOUS TRAJECTORY OPTIMIZATION AND CONTACT SELECTION FOR MULTI-MODAL MANIPULATION PLANNING.** RSS 2023
M. Zhang, **DKJ**, A. Raghunathan and K. Hauser.
- C39. **CHANCE-CONSTRAINED OPTIMIZATION IN CONTACT RICH SYSTEMS.** ACC 2023
Y. Shirai, **DKJ**, A.U. Raghunathan and D. Romeres.
- C38. **SIMULTANEOUS TACTILE ESTIMATION AND CONTROL OF EXTRINSIC CONTACT.** ICRA 2023
S. Kim, **DKJ**, D. Romeres and A. Rodriguez.
- C37. **TACTILE TOOL MANIPULATION.** ICRA 2023
Y. Shirai, **DKJ**, A. Raghunathan and D. Hong.
- C36. **COVARIANCE STEERING FOR UNCERTAIN CONTACT-RICH SYSTEMS.** ICRA 2023
Y. Shirai, **DKJ** and A. Raghunathan.
- C35. **CONSTRAINED DYNAMIC MOVEMENT PRIMITIVES FOR COLLISION AVOIDANCE IN NOVEL ENVIRONMENTS.** IROS 2023
S. Shaw, **DKJ**, A. Raghunathan, R. Corcodel, D. Romeres, G. Konidaris and D. Nikovski.

- C34. **HOMOGENEOUS INFEASIBLE INTERIOR POINT METHOD FOR CONVEX QUADRATIC PROGRAMS.** CDC 2022
A. Raghunathan, DKJ and D. Romeres.
- C33. **ACTIVE EXPLORATION FOR ROBOTIC MANIPULATION.** IROS 2022
T. Schneider, B. Belousov, G. Chalvatzaki, D. Romeres, DKJ and J. Peters.
- C32. **DESIGN OF ADAPTIVE COMPLIANCE CONTROLLERS FOR ROBOTIC ASSEMBLY.** ECC 2022
DKJ, D. Romeres, S. Jain, W. Yezunis and D. Nikovski.
- C31. **IMITATION AND SUPERVISED LEARNING OF COMPLIANCE FOR ROBOTIC ASSEMBLY.** ECC 2022
DKJ, D. Romeres, W. Yezunis and D. Nikovski.
- C30. **PYROBOCOP: PYTHON-BASED ROBOT CONTROL AND OPTIMIZATION PACKAGE FOR MANIPULATION.** ICRA 2022
A.U. Raghunathan, DKJ and D. Romeres.
- C29. **ROBUST PIVOTING: EXPLOITING FRICTIONAL STABILITY USING BILEVEL OPTIMIZATION.** ICRA 2022
Y. Shirai, DKJ, A.U. Raghunathan and D. Romeres.
- C28. **TRAJECTORY OPTIMIZATION FOR MANIPULATION OF DEFORMABLE OBJECTS: ASSEMBLY OF BELT DRIVE UNITS.** ICRA 2021
S. Jin, D. Romeres, A. Raghunathan, DKJ, and M. Tomizuka.
- C27. **TACTILE RL FOR INSERTION: GENERALIZATION TO OBJECTS OF UNKNOWN GEOMETRY.** ICRA 2021
S. Dong, DKJ, D. Romeres, D. Nikovski and Alberto Rodriguez.
- C26. **DEEP REACTIVE PLANNING IN DYNAMIC ENVIRONMENTS.** CoRL 2020
K. Ota, DKJ, et. al..
- C25. **EFFICIENT EXPLORATION IN CONSTRAINED ENVIRONMENTS WITH GOAL-ORIENTED REFERENCE PATH.** IROS 2020
K. Ota, Y. Sasaki, DKJ, Yusuke Yoshiyasu, and Asako Kanezaki.
- C24. **CAZSL: ZERO-SHOT REGRESSION FOR PUSHING MODELS BY GENERALIZING THROUGH CONTEXT.** IROS 2020
W. Zhang, S. Seto and DKJ.
- C23. **CAN INCREASING INPUT DIMENSIONALITY IMPROVE DEEP REINFORCEMENT LEARNING?.** ICML 2020
K. Ota, T. Oiki, DKJ, T. Mariyama and D. Nikovski.
- C22. **LOCAL POLICY OPTIMIZATION FOR TRAJECTORY-CENTRIC MODEL-BASED REINFORCEMENT LEARNING.** ICRA 2020
P. Kolaric, DKJ, A. Raghunathan, F.L. Lewis M. Benosman, D. Romeres, and D. Nikovski.
- C21. **QUASI-NEWTON TRUST REGION POLICY OPTIMIZATION.** CoRL 2019
DKJ, A.U. Raghunathan and D. Romeres.
- C20. **TRAJECTORY OPTIMIZATION FOR UNKNOWN CONSTRAINED SYSTEMS USING REINFORCEMENT LEARNING.** IROS 2019
K.Ota, D.K. Jha, T. Oiki, M. Miura, T. Nammoto, D. Nikovski and T. Maraiyama.
- C19. **GAME THEORETIC OPTIMIZATION VIA GRADIENT-BASED NIKAIIDO ISODA FUNCTION.** ICML 2019
A. Raghunathan, A. Cherian and DKJ.
- C18. **ANOMALY DETECTION FOR INSERTION TASKS IN ROBOTIC ASSEMBLY USING GAUSSIAN PROCESS MODELS.** ECC 2019
D. Romeres, DKJ, H.A. Dau, W. Yezunis and D. Nikovski.
- C17. **NEURAL NETWORK INVERSE MODELING FOR INTEGRATED PHOTONICS.** OFC 2019
M.H. Tahersima, K.Kojima, T. Koike-Akino, DKJ, B. Wang, C. Lin and K. Parsons.
- C16. **MULTI-LABEL TIME SERIES PREDICTION WITH SEVERE CLASS IMBALANCE.** PHM 2019
W. Zhang, DKJ, E. Laftchiev and D. Nikovski.
- C15. **SAFE DATA-DRIVEN CONTROL POLICIES FOR NONLINEAR SYSTEMS USING KERNELIZED LIPSCHITZ LEARNING.** ACC 2019
A. Chakrabarty, DKJ and Y. Wang.
- C14. **SAFE DATA-DRIVEN CONTROL POLICIES FOR NONLINEAR SYSTEMS USING KERNELIZED LIPSCHITZ LEARNING.** ACC 2019
A. Chakrabarty, DKJ and Y. Wang.
- C13. **SAFE DATA-DRIVEN CONTROL POLICIES FOR NONLINEAR SYSTEMS USING KERNELIZED LIPSCHITZ LEARNING.** ACC 2019
A. Chakrabarty, DKJ and Y. Wang.
- C12. **SEMIPARAMETRIC GAUSSIAN PROCESS LEARNING OF FORWARD DYNAMICAL MODELS FOR NAVIGATING IN A CIRCULAR MAZE.** ICRA 2019
D. Romeres, DKJ, A. Libera, W. Yezunis and D. Nikovski.

- C11. **SIM-TO-REAL TRANSFER LEARNING USING ROBUSTIFIED CONTROLLER IN ROBOTIC TASKS INVOLVING COMPLEX DYNAMICS.** ICRA 2019
J. vanBaar, R. Corcoran, A. Sullivan, **DKJ**, D. Romeres and D. Nikovski.
- C10. **ALGORITHMS FOR TASK ALLOCATION IN HOMOGENEOUS SWARM OF ROBOTS.** IROS 2018
DKJ.
- C9. **A TWO-STAGE RRT PATH PLANNER FOR AUTOMATED PARKING.** CASE 2017
Y. Wang, **DKJ** and Y. Akemi.
- C8. **DATA-DRIVEN ANYTIME ALGORITHMS FOR MOTION PLANNING WITH SAFETY GUARANTEES..** ACC 2016
DKJ, M.Zhu, Y. Wang and A. Ray.
- C7. **DATA-DRIVEN ANYTIME ALGORITHMS FOR MOTION PLANNING WITH SAFETY GUARANTEES..** ACC 2016
DKJ, M.Zhu, Y. Wang and A. Ray.
- C6. **DEPTH ESTIMATION IN MARKOV MODELS OF TIME SERIES DATA VIA SPECTRAL ANALYSIS.** ACC 2015
DKJ, A. Srivastav, K. Mukherjee and A. Ray.
- C5. **GAME THEORETIC CONTROLLER SYNTHESIS FOR MULTI-ROBOT MOTION PLANNING-PART II: POLICY-BASED ALGORITHMS.** NECSYS 2015
DKJ, M. Zhu and A. Ray.
- C4. **DATA-DRIVEN ROBOT GAIT MODELING VIA SYMBOLIC TIME SERIES ANALYSIS.** ACC 2016
Y. Seto, N. Takhashi, **DKJ**, N. Virani and A. Ray.
- C3. **TOPOLOGY CONTROL IN MOBILE SENSOR NETWORKS USING INFORMATION SPACE FEEDBACK.** ACC 2016
K.G. Lore, **DKJ** and S. Sarkar.
- C2. **LANGUAGE MEASURE-THEORETIC PATH PLANNING IN THE PRESENCE OF DYNAMIC OBSTACLES.** ACC 2013
S. Sonti, N. Virani, **DKJ**, K. Mukherjee and A. Ray.
- C1. **ADDITIONAL PAPERS AVAILABLE ON GOOGLE SCHOLAR.** 2010-2016
DKJ.

JOURNAL PUBLICATIONS

[†] *under submission*

- J25. **LEARNING PIVOTING MANIPULATION WITH FORCE AND VISION FEEDBACK USING OPTIMIZATION-BASED DEMONSTRATIONS.** IEEE RA-L 2026
Yuki Shirai, Kei Ota, **DKJ**, Diego Romeres.
- J24. **SIMULTANEOUS EXTRINSIC CONTACT AND IN-HAND POSE ESTIMATION VIA DISTRIBUTED TACTILE SENSING.** IEEE RA-L 2026
Mark Van der Merwe, Kei Ota, Nima Fazeli, Dmitry Berenson, **DKJ**.
- J23. **A FRAMEWORK FOR TRAINING LARGER NETWORKS FOR DEEP REINFORCEMENT LEARNING.** MACHINE LEARNING JOURNAL
Kei Ota, **DKJ**, Asako Kanezaki.
- J22. **SIMULTANEOUS TRAJECTORY OPTIMIZATION AND CONTACT SELECTION FOR CONTACT-RICH MANIPULATION WITH HIGH FIDELITY GEOMETRY.** IEEE T-RO
M. Zhang, **DKJ**, A. Raghunathan and K. Hauser.
- J21. **CHANCE-CONSTRAINED OPTIMIZATION FOR CONTACT-RICH SYSTEMS USING MIXED INTEGER PROGRAMMING.** NA: HS
Y. Shirai, **DKJ**, A. Raghunathan and D. Romeres.
- J20. **PATH GENERATION BASED ON EQUIPOTENTIAL CURVES.** IEEE ACCESS
C. Lin, Y. Wang, W. Vetterling, **DKJ**, and R. Quirynen.
- J19. **L³ F-TOUCH: A LIGHT-WEIGHT, LOW-COST AND WIRELESS GELSIGHT SENSOR WITH EXTENDED THREE-AXIS FORCE SENSING.** IEEE RA-L
Wanlin Li, Meng Wang, Jiarui Li, Yao Su, **DKJ**, Kaspar Althoefer, Hangxin Liu.
- J18. **ROBUST PIVOTING MANIPULATION USING BILEVEL CONTACT-IMPLICIT OPTIMIZATION.** IEEE T-RO
Y. Shirai, **DKJ** and A. Raghunathan.

- J17. **GENERATIVE DEEP LEARNING MODEL FOR INVERSE DESIGN OF INTEGRATED NANOPHOTONIC DEVICES.** LASERS AND PHOTONICS
REVIEWS.
Y. Tang *et al.*
- J16. **DEEP NEURAL NETWORKS FOR INVERSE DESIGN OF NANOPHOTONIC DEVICES.** IEEE JLT
K.Kojima *et al.*
- J15. **MODEL-BASED REINFORCEMENT LEARNING FOR ROBOTIC SYSTEMS WITHOUT VELOCITY MEASUREMENTS.** IEEE RA-L
A.D. Libera, D. Romeres, **DKJ**, W. Yerazunis and D. Nikovski.
- J14. **DATA-EFFICIENT LEARNING FOR COMPLEX AND REAL-TIME PHYSICAL PROBLEM SOLVING USING AUGMENTED SIMULATION.** IEEE RA-L
K. Ota, **DKJ**, J. van Baar, D. Romeres, K. Smith, A. Sullivan, D. Nikovski and Josh Tenenbaum.
- J13. **MULTI-LABEL TIME SERIES PREDICTION USING DEEP NEURAL NETWORKS (SPECIAL ISSUE ON DEEP LEARNING FOR PROGNOSTICS AND ANALYTICS).** IJPHM
W. Zhang, **DKJ**, E. Laftchiev and Daniel Nikovski.
- J12. **SAFE APPROXIMATE DYNAMIC PROGRAMMING VIA KERNELIZED LIPSCHITZ ESTIMATION.** IEEE TNNLS
A. Chakrabarty, **DKJ**, G. Buzzard, Y. Wang and K. Vamvoudakis.
- J11. **DEEP NEURAL NETWORK INVERSE DESIGN OF INTEGRATED NANOPHOTONIC DEVICES.** NATURE SCIENTIFIC REPORTS
M.H. Tahersima, K.Kojima, T. Koike-Akino, **DKJ**, B. Wang, C. Lin and K. Parsons.
- J10. **SEQUENTIAL HYPOTHESIS TESTS FOR STREAMING DATA VIA SYMBOLIC TIME-SERIES ANALYSIS.** EAAI
N. Virani, **DKJ**, A. Ray and S. Phoha.
- J9. **REDUCED-ORDER MARKOV MODELING OF TIME SERIES USING SYMBOLIC ANALYSIS.** SIGNAL PROCESSING
DKJ, N. Virani, A. Srivastav, J. Reimann and A. Ray.
- J8. **PERFORMANCE ANALYSIS OF PASSIVE SENSOR NETWORKS VIA MARKOV MODELING OF TIME SERIES DATA.** IEEE T-C
Y. Li, **DKJ**, A. Ray and T.A. Wettergren.
- J7. **IMITATION OF DEMONSTRATIONS USING BAYESIAN FILTERING WITH NONPARAMETRIC DATA-DRIVEN MODELS (RECIPIENT OF KALMAN BEST PAPER AWARD, 2019 BY ASME DSCD).** ASME JDSMC
N. Virani, **DKJ**, Z. Yuan, I. Shekhawat and A. Ray.
- J6. **TEMPORAL LEARNING IN VIDEO DATA USING GAUSSIAN PROCESSES AND DEEP LEARNING.** IJPHM
DKJ, A. Srivastav and A. Ray.
- J5. **INFORMATION FUSION OF PASSIVE SENSORS FOR TARGET DETECTION IN DYNAMIC ENVIRONMENTS.** IEEE T-C
Y. Li, **DKJ**, A. Ray and T.A. Wettergren.
- J4. **PATH PLANNING IN GPS-DENIED ENVIRONMENTS VIA COLLECTIVE INTELLIGENCE OF DISTRIBUTED SENSOR NETWORKS.** IJC
DKJ, P. Chattopadhyay, S. Sarkar and A. Ray.
- J3. **TOPOLOGY OPTIMIZATION FOR ENERGY MANAGEMENT IN UNDERWATER SENSOR NETWORKS.** IJC
DKJ, T.A. Wettergren, A. Ray and K. Mukherjee.
- J2. **ROBOT PATH PLANNING IN THE PRESENCE OF UNCERTAINTIES: A LANGUAGE MEASURE THEORETIC APPROACH (SPECIAL ISSUE ON STOCHASTIC MODELS, CONTROL AND ALGORITHMS IN ROBOTICS (INVITED PAPER)).** ASME JDSMC
DKJ, Y. Li, T.A. Wettergren and A. Ray.
- J1. **CLASSIFICATION OF TWO-PHASE FLOW PATTERNS BY ULTRASONIC SENSING.** ASME JDSMC
DKJ, A. Ray, K. Mukherjee and S. Chakraborty.

REFEREED WORKSHOP PUBLICATIONS

- W4. **HUMAN ACTION UNDERSTANDING-BASED ROBOT PLANNING USING MULTIMODAL LLM.** ICRA WORKSHOPS 2024
Motonari Kambara, Chiori Hori, Komei Sugiura, Kei Ota, **DKJ**, Sameer Khurana, Siddharth Jain, Radu Corcodel, Diego Romeres, Jonathan Le Roux.
- W3. **TACTILE ESTIMATION OF EXTRINSIC CONTACT PATCH FOR STABLE PLACEMENT.** IROS WORKSHOPS 2023
Kei Ota, **Devesh K. Jha**, Krishna Murthy Jatavallabhula, Joshua B. Tenenbaum.
- W2. **TACTILE POSE FEEDBACK FOR CLOSED-LOOP MANIPULATION TASKS.** RSS WORKSHOPS 2023
Kei Ota, Siddharth Jain, Mengchao Zhang, **Devesh K Jha**.

PROFESSIONAL SERVICE AND VOLUNTEERING

Nov. 25-Present	Associate Editor; T-ASE
2025-Present	Associate Editor; ICRA, CASE
2023-Present	Area Chair, NeurIPS
2024-Present	Area Chair, ICML
2021-2024	Associate Editor; IEEE RA-L
2019-Present	Reviewer; Robotics (ICRA, IROS, RAL, CoRL, TRO, RA-L, R:SS) and ML (Neurips, ICML, ICLR)

INVITED TALKS

Nov 2025	Invited talk - "Embracing Contacts for Physical Intelligence", Iowa State University
Sept 2025	Invited talk - "Embracing Contacts for Physical Intelligence", Big AI Seminar Series, Brown University
Sept 2024	Invited talk - "Embracing Contacts for Physical Intelligence", Mechanical Engineering Seminar Series, UConn, Storrs, Connecticut
July 2024	Invited talk - "Embracing Contacts for Physical Intelligence", DSAI, IITM, Chennai
Oct 2022	Invited talk - "Robotic Manipulation in the Wild: Planning, Control and Learning Through Contacts", Mechanical Engg, Penn State
Feb 2022	Invited talk - "Robotic Manipulation in the Wild: Planning, Control and Learning Through Contacts", Mechanical and Aerospace Engineering, NYU, NYC
Feb 2022	Invited talk - "Robotic Manipulation in the Wild: Planning, Control and Learning Through Contacts", Mechanical Engineering, UCR
Dec 2021	Invited talk - "Robotic Manipulation in the Wild: Planning, Control and Learning Through Contacts", Indian Institute of Science, RBCCPS, Bengaluru
Sept 2021	Invited talk - "A Vision towards Feedback Robotic Manipulation", Robert Bosch Research Center, San Francisco
April 2021	Invited talk - "A Vision towards Feedback Robotic Manipulation", A pint of Robotics, University of Leeds
Jan 2021	Invited talk - "A Vision towards Feedback Robotic Manipulation", University of Wisconsin-Madison
Oct 2018	Invited talk, Central Research and Development (R & D) Center, Mitsubishi Electric Corporation (MELCO)

STUDENTS MENTORED

Over the years I have mentored several students from various Universities during internships at MERL. Most of these internships have resulted in successful publications.

Fall 2025	Shaoxiong Yao, PhD Student, UIUC
Fall 2025	Chengyi Xing, PhD Candidate, Stanford
Summer 2025	Zixing Wang, PhD Student, Purdue Univ
March	Yuki Shirai, Post-doctoral Research Fellow, MERL
2024-Present	
2018-Summer 2025	Kei Ota, Research Scientist, Mitsubishi Electric Corporation (now R&D Head at AIrOA, Tokyo)
Fall 2025	Patrick Gambill, PhD Student, WSU
Spring 2025	Patrick Gambill, PhD Student, WSU
Fall 2024	Akshay Jaitly, Robotic Manipulation, WPI
Fall 2024	Mark van der Merwe, Robotic Manipulation, UMich
Summer 2024	Mark van der Merwe, Robotic Manipulation, UMich
Summer 2024	Yuxin Chen, Robotic Manipulation, UC Berkeley
Fall 2023	Antonia Bronars, PhD Student, MIT
Summer 2023	Antonia Bronars, PhD Student, MIT
Summer 2023	Lingfeng Sun, PhD Student, UC Berkeley
Summer 2023	Shivam Vats, PhD Student, CMU
Summer 2023	Boyuan Liang, PhD Student, UC Berkeley
Fall 2022	Menchao Zhang, PhD Student, UIUC
Summer 2022	Yuki Shirai, PhD Student, UCLA
Summer 2021	Yuki Shirai, PhD Student, UCLA

Summer 2021	Seiji Shaw, PhD Student, MIT
Summer 2020	Ola Kalinowska, PhD Student, Northwestern
Summer 2020	Shiyu Jin, PhD Student, UC Berkeley
Summer 2019	Patrick Kolaric, PhD Student, UT Arlington
Summer 2019	Yifang Liu, PhD Student, Cornell
Summer 2019	Scott Jordan, PhD Student, UMass Amherst
Summer 2018	Wenyu Zhang, PhD Student, Cornell
Summer 2018	Nakul Gopalan, PhD Student, Brown University
Summer 2018	Anh Dau, PhD Student, UC Riverside
Summer 2018	Alberto Dalla Libera, PhD Student, Univ Padova
Spring 2021	Mostafa Hussein, PhD Student, Univ NH

MISC.

News Releases

Dec 19 2023	Mitsubishi Electric to Showcase Sustainable Smart Society at CES 2024. Website
Feb 13 2019	Mitsubishi Electric's Fast Stepwise-learning AI Shortens Motion Learning. Webpage
Sep 20 2018	Mitsubishi Electric to Exhibit at CEATEC JAPAN 2018. Website
Feb 14 2018	New Technology Uses Model-based AI Learning to Control Equipment. Webpage

Patents

Total of 20 patents allowed or granted. Additional 15 patents under review with USPTO.

2018	Y. Wang and DKJ , "Vehicle Automated Parking System and Method. (Allowed)."
2019	DKJ , et al. "Predictive Classification of Future Operations. (Allowed)"
2019	DKJ , et al., "System and Method for Control Constrained Operation of Machine with Partially Unknown dynamics using Lipschitz Constant. (Allowed)"
2019	DKJ , et al., "System and Method for Policy Optimization using Quasi-Newton Trust Region Method (Allowed)"
2019	D. Nikovski, DKJ , et al., "System and Method for Automatic Error Recovery in Robotic Systems (Allowed)"
2019	D. Romeres, DKJ , et al., "System and Design of Derivative-free Model Learning for Robotic Systems (Allowed)"
2019-Present	More than 25 additional patent applications filed with USPTO. Details provided on request.

Media

Dec 20 2020	"Mitsubishi Electric developed autonomous gear assembly robot," Nikkei Robotics. Webpage
Apr 19 2024	"MERL introduces a new autonomous robotic assembly technology," IEEE Video Friday. Webpage
June 2021	"Using Tactile Reinforcement Learning for Insertion Tasks", The Robot Report. Webpage
Oct 2018	"Model-based Reinforcement Learning for smart control of equipment demonstrated at CEATAC 2018, Japan.", CEATEC, Japan. Webpage
Feb 2018	"Model-based Reinforcement Learning demonstrated at annual press release of Mitsubishi Electric in Tokyo, Japan. Was covered by leading financial and national newspapers in Japan." Webpage

Demonstrations at Exhibitions

19-21 Nov 2025	"Cable Manipulation and Connector Assembly Technology" IIFES 2025.
13-17 May 2024	"Autonomous Robotic Assembly," ICRA2024.
9-12 Jan 2024	"Autonomous Robotic Assembly," CES2024. YouTube
16-19 Oct 2018	"Technology with model-based AI learning to control equipment which enable to lead a ball to the goal of circular maze without teachings by human," CEATEC2018.
Feb 2018	"Model-based AI for Fast Equipment Control," Press Release at MELCO HQ, Tokyo

“ REFERENCES

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