

**CONTACT INFORMATION** 60 Fifth Avenue, Fl. 5  
New York, NY 10011

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**EDUCATION** **Courant Institute of Mathematical Sciences** Sep. 2020 – Present  
New York University  
*Ph.D. Candidate in Computer Science*  
Advisor: Prof. Lerrel Pinto

**Massachusetts Institute of Technology** Sep. 2015 – Aug. 2020  
*M.Eng. in Electrical Engineering and Computer Science* Jan. ‘19 – Aug. ‘20  
Advisor: Prof. Aleksander Mądry  
*S.B. in Mathematics and in Computer Science* Sep. ‘15 – Jun. ‘19

**RESEARCH EXPERIENCE** **Hello Robot Inc.;** Research Consultant with Dr. Aaron Edsinger Jan. ‘24 – May ‘24  
**GenAI & FAIR @ Meta AI;** Visiting Scientist with Dr. Ishan Misra Oct. ‘22 – Oct. ‘23  
**Embodied AI @ Meta AI;** Reserach Intern with Dr. Arthur Szlam May ‘22 – Sep. ‘22

**HONORS AND AWARDS** **PhD Communications Award,** Amazon Robotics Research Symposium 2024  
**Best Paper,** Lifelong Learning for Home Robots workshop @ CoRL 2024 2024  
**Outstanding Paper,** MFM-EAI workshop @ ICML 2024 2024  
**Best Demo Award (Finalist),** Intl. Conf. on Robotics & Automation (ICRA) 2024  
**Apple Scholars in AI/ML Fellowship,** Apple MLR 2023–25  
**Two Sigma Fellowship,** (Finalist, Declined) 2023  
**Jacob T. Schwartz Ph.D. Fellowship,** NYU Courant 2023  
**AI Mentorship (AIM) Program,** Meta & NYU 2022–23  
**Best Paper,** Language and Robot Learning workshop @ CoRL 2022 2022  
**Henry M. MacCracken Doctoral Fellowship,** NYU 2020–25  
**Burchard Scholars Program,** MIT 2018–19  
**AMD Undergraduate Research and Innovation Scholarship,** MIT 2017–18  
**Silver Medal,** International Mathematical Olympiad (IMO) 2014  
**Bronze Medal,** International Mathematical Olympiad (IMO) ×2 2012–13  
**Bangladesh Natl. Team,** International Olympiad in Informatics (IOI) ×2 2012, 2015  
**National Champion,** Bangladesh Mathematical Olympiad ×6 2009–14

**REFERENCES**

1. Prof. Lerrel Pinto, Assistant Professor of CS, NYU Courant. [lerrel@cs.nyu.edu](mailto:lerrel@cs.nyu.edu)
2. Prof. Russ Tedrake, Professor of EECS, Aero/Astro, MechE, MIT. [russt@mit.edu](mailto:russt@mit.edu)
3. Prof. Abhinav Gupta, Professor, CMU Robotics Institute. [abhinavg@cs.cmu.edu](mailto:abhinavg@cs.cmu.edu)
4. Prof. Rob Fergus, Professor of CS, NYU Courant. [fergus@cs.nyu.edu](mailto:fergus@cs.nyu.edu)
5. Dr. Charles C. Kemp, Cofounder & Chief Technology Officer, Hello Robot Inc. Previously Associate Professor, Georgia Institute of Technology. [ck@hello-robot.com](mailto:ck@hello-robot.com)

## PREPRINTS

<sup>†</sup> Equal Contribution, <sup>‡</sup> Equal Advising. Works Presented Reverse Chronologically.

- [1] **DynaMem: Online Dynamic Spatio-Semantic Memory for Open World Mobile Manipulation** DOI: ARXIV:2411.04999  
*International Conference of Robotics and Automation (ICRA) (Under Review)*  
**Live Demo** at Conference on Robot Learning (CoRL) 2024  
**Best Paper Award** at CoRL 2024 Workshop on Lifelong Learning for Home Robots  
 Liu, P., Guo, Z., Warke, M., Chintala, S., Paxton, C., *Shafiullah, Nur Muhammad Mahi<sup>†</sup>*  
 & Pinto, L.<sup>‡</sup>
- [2] **Robot Utility Models: General Policies for Zero-Shot Deployment in New Environments** DOI: ARXIV:2409.05865  
*International Conference of Robotics and Automation (ICRA) (Under Review)*  
**Live Demo** at Conference on Robot Learning (CoRL) 2024  
**Oral Presentation** at CoRL 2024 Workshop on Language and Robot Learning (LangRob)  
 Etukuru, H.<sup>†</sup>, Naka, N., Hu, Z., Lee, S., Mehu, J., Edsinger, A., Paxton, C., Chintala, S.,  
 Pinto, L., *Shafiullah, Nur Muhammad Mahi<sup>†</sup>*
- [3] **On Bringing Robots Home** DOI: ARXIV:2311.16098  
*International Journal of Robotics Research (Under Review)*  
**Live Demo** at Neural Information Processing Systems (NeurIPS) 2023  
**Best Demo Award (Finalist)** at International Conference on Robotics and Automation (ICRA) 2024  
*Shafiullah, Nur Muhammad Mahi<sup>†</sup>*, Rai, A.<sup>†</sup>, Etukuru, H., Liu, Y., Misra, I., Chintala, S.,  
 Pinto, L.

## REFEREED PUBLICATIONS

- [4] **OK-Robot: What Really Matters in Integrating Open-Knowledge Models for Robotics Robotics: Science and Systems (RSS) 2024**  
**Live demo** at International Conference on Robotics and Automation (ICRA) 2024  
 Liu, P.<sup>†</sup>, Orru, Y.<sup>†</sup>, Vakil, J., Paxton, C., *Shafiullah, Nur Muhammad Mahi<sup>†</sup>* & Pinto, L.<sup>‡</sup>
- [5] **Behavior Generation with Latent Actions**  
**Spotlight (3.5%)** at International Conference of Machine Learning (ICML) 2024  
**Outstanding Paper Award** at Multi-modal Foundation Models for Embodied AI workshop, ICML 2024  
 Lee, S., Wang, Y., Etukuru, H., Kim, H., *Shafiullah, Nur Muhammad Mahi<sup>†</sup>* & Pinto, L.<sup>‡</sup>
- [6] **Open X-Embodiment: Robotic learning datasets and RT-x models**  
**Best Paper Award** at International Conference in Robotics and Automation (ICRA) 2024  
 Open X-Embodiment Collaboration
- [7] **CLIP-Fields: Weakly Supervised Semantic Fields for Robotic Memory**  
*Robotics: Science and Systems (RSS) 2023*  
**Best Paper Award** at CoRL Workshop on Language and Robot Learning 2023  
*Shafiullah, Nur Muhammad Mahi*, Paxton, C., Pinto, L., Chintala, S., Szlam, A.
- [8] **From Play to Policy: Conditional Behavior Generation from Uncurated Robot Data**  
**Oral Presentation (5%)** at Intl. Conference on Learning Representations (ICLR) 2023  
 Cui, Zichen, Wang, Yibin, *Shafiullah, Nur Muhammad Mahi*, Pinto, Lerrel
- [9] **Behavior Transformers: Cloning  $k$  Modes with One Stone**  
*Neural Information Processing System (NeurIPS) 2022*  
*Shafiullah, Nur Muhammad Mahi*, Cui, Zichen, Altanzaya, Ariuntaya, Pinto, Lerrel

- [10] **The Surprising Effectiveness of Representation Learning for Visual Imitation**  
*Robotics: Science and Systems (RSS) 2022*  
 Pari, J.<sup>†</sup>, *Shafiullah, Nur Muhammad Mahi*<sup>†</sup>, Arunachalam, S.P., Pinto, L.
- [11] **One After Another: Learning Incremental Skills for a Changing World**  
*International Conference on Learning Representations (ICLR) 2022*  
*Shafiullah, Nur Muhammad Mahi*, Pinto, Lerrel
- [12] **Training for Faster Adversarial Robustness Verification via Inducing ReLU Stability**  
*International Conference on Learning Representations (ICLR) 2019*  
 Xiao, K. Y., Tjeng, V., *Shafiullah, Nur Muhammad Mahi*, Mądry, A.

**INVITED TALKS** **On Building General, Zero-Shot Robot Policies**

Harvard Computational Robotics Group	Oct. 2024
MIT Embodied Intelligence Seminar	Oct. 2024
OpenAI Robotics Reading Group	Oct. 2024
CMU Manipulation Group Seminar	Sep. 2024

**Behavior Generation with Latent Actions**

HuggingFace LeRobot Research Talks	Aug. 2024
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**On Bringing Robots Home**

Apple AI/ML Research	May 2024
UMich EECS 598: Action & Perception	Mar. 2024
Google Deepmind Robotics	Mar. 2024
Berkeley Robot Learning Lab	Feb. 2024
Meta Embodied AI Seminar	Jan. 2024
NYU CILVR Seminar	Dec. 2023

**Robot Learning in a Post-Turing World**

Honda Research, Tokyo	Jul. 2023
REAL Lab @ Columbia (now Stanford)	Nov. 2022

**TUTORIALS** **Supervised Policy Learning for Real Robots**

*Robotics: Science and Systems (RSS) 2024*  
<https://supervised-robot-learning.github.io/>  
*Shafiullah, Nur Muhammad Mahi*, Feng, Siyuan, Pinto, Lerrel & Tedrake, Russ

**RESEARCH  
MENTORING**

**Current Students**

Haritheja Etukuru (2023 – Present, BS @ New York University; *Graduating '25*)  
 Omar Rayyan (2024 – Present, BS @ New York University (Abu Dhabi); *Graduating '25*)  
 Zhanqiu “Jack” Guo (2024 – Present, BS @ New York University; *Graduating '25*)  
 Lisa Kondrich (2024 – Present, MS @ New York University; *Graduating '26*)  
 Norihito Naka (2023 – Present, MS @ New York University; *Graduating '25*)  
 Yibin Wang (2022 – Present, BS, MS @ New York University; *Graduating '25*)

**Past Students**

Seungjae Lee (2023 – 24, MS @ Seoul National University; Next Ph.D. at UMD)  
 Peiqi Liu (2023 – 24, BS @ New York University; Next at [Hello Robot Inc.](#))  
 Yaswanth Orru (2023 – 24, MS @ New York University; Next at [Fauna Robotics](#))  
 Anant Rai (2022 – 23, MS @ New York University; Next at [1X.tech](#))  
 Yiqian Liu (2022 – 23, BS @ New York University; Next MS at Columbia University)

Zichen “Jeff” Cui (2022 – 24, MS @ New York University; Next Ph.D. at NYU GRAIL)  
 Ariuntaya Altanzaya (2022–23, MS @ New York University; Next at [Roboflow](#))  
 Sridhar Pandian Arunachalam (2021–22, MS @ New York University; Next at [1X.tech](#))  
 Jyothish Pari (2020 – 21, BS @ New York University; Next Ph.D. at MIT)

## ACADEMIC SERVICE

### Workshop and Tutorial Organization

7<sup>th</sup> Workshop on Robot Learning @ ICLR ‘25 (proposed)  
 Tutorial on Supervised Policy Learning for Real Robots @ RSS ‘24  
 1<sup>st</sup> Workshop on Vision-Language Models for Navigation and Manipulation @ ICRA ‘24  
 1<sup>st</sup> Workshop on Learning Dexterous Manipulation @ RSS ‘23

### Peer Reviewing

*Robotics* — RSS, CoRL, RA-L, ICRA, T-RO, IROS, IJRR  
*Machine Learning* — ICLR, NeurIPS, ICML  
*Computer Vision* — T-PAMI

## TEACHING EXPERIENCE

**Graduate Deep Reinforcement Learning (CSCI-GA 3033-090)** Fall 2021  
*New York University*  
 Graduate Teaching Assistant with Prof. Lerrel Pinto

**Introduction to Machine Learning (6.036) ×2**  
**Jointly Instructed with Applied Machine Learning (6.862)** Spring & Fall 2019  
*Massachusetts Institute of Technology*  
 Graduate Teaching Assistant with Prof. Leslie P. Kaelbling

**Principles of Discrete Applied Mathematics (18.200)** Fall 2018  
*Massachusetts Institute of Technology*  
 Teaching Assistant (Grading) with Prof. Andrej Risteski

**Design and Analysis of Algorithms (6.046/18.410) ×4** Fall 2015 – Spring 2017  
*Massachusetts Institute of Technology*  
 Volunteer Student Tutor with Eta Kappa Nu (HKN) Honor Society

**Combinatorics and Euclidean Geometry** 2010–15, 2022–23  
*Bangladesh Mathematical Olympiad National Camps*  
 Instructor under Dr. Mahbub A. Majumdar

## PRESS COVERAGE

**Robot Utility Models: General Policies for Zero-Shot Deployment in New Environments**  
 MIT Technology Review, The Robot Report, Elektropraktiker (Germany),  
 IndiaAI.gov (India)

**OK Robot: What Really Matters in Integrating Open-Knowledge Models for Robotics**  
 MIT Technology Review, Fox News, VentureBeat, TechXplore, Notebookcheck, Digital  
 Information World (Pakistan)

**On Bringing Robots Home**  
 MIT Technology Review, New Scientist, TechXplore, TV Tokyo (Japan), Neue Zürcher  
 Zeitung (Switzerland), NDTV (India), MarkTechPost, Washington Square News

**Open X-Embodiment: Robotic Learning Datasets and RT-X Models**  
 VentureBeat, Tech Times, Synced Review (Canada), TechForge (UK)  
 Analytics India Magazine (India)

**The Surprising Effectiveness of Representation Learning for Visual Imitation**  
 TechXplore

OUTREACH, VOLUNTEERING, & SOCIAL GOOD	Mentor, Ph.D. Application Advising, NYU GRAIL	2021–Present
	Mentor, Collegiate Research Initiative, NYU	2023
	Deputy Leader, Bangladesh National Math Team, IMO 2023 Japan	2023
	Consultant, Bangladesh National Data Analytics Task Force (COVID-19)	2020–22
	Online Learning Transition Consultant, Brac University Bangladesh	2020–21
	Internal Relations Chair, MIT HKN Honor Society	2019–20
	MIT Global Teaching Lab, Stuttgart, Germany	2018
	MIT Peer Mentoring Program	2017–18
	Volunteer Tutor, MIT HKN Honor Society	2015–17
	Mentor, Bangladesh Olympiad in Informatics	2014–2015
	Mentor, Bangladesh Mathematical Olympiad	2010–2015