Nur Muhammad "Mahi" Shafiullah

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Contact Information

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Education

University of California, Berkeley — Aug. 2025 – Present
Postdoctoral Researcher
Host: Jitendra Malik

New York University — Sep. 2020 – July 2025
Courant Institute of Mathematical Sciences
Ph.D. Candidate in Computer Science
Advisor: Lerrel Pinto

Massachusetts Institute of Technology — Sep. 2015 – Aug. 2020
M.Eng. in Electrical Engineering and Computer Science — Jan. '19 – Aug. '20
Advisor: 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

Innovator under 35 (TR35), MIT Technology Review — 2025
Best Demo Award, Conference on Computer Vision and Pattern Recognition — 2025
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
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) $\times 2$ — 2012–13
Natl. Team Bangladesh, International Olympiad in Informatics (IOI) $\times 2$ — 2012, 2015
National Champion, Bangladesh Mathematical Olympiad $\times 6$ — 2009–14

Research Mentoring

Current Students

Haritheja Etukuru — 2023 – Now, Ph.D. @ UC Berkeley; *Grad. '30*
Omar Rayyan — 2024 – Now, Ph.D. @ UCLA; *Grad. '30*

Manan Anjaria	2025 – Now, MS @ New York University; *Grad. '26*
Vedant Ghatnekar	2025 – Now, MS @ New York University; *Grad. '26*
Krish Mehta	2025 – Now, BS @ University of Waterloo; *Grad. '26*

Past Students

Enes Erciyes	2023 – 24, MS @ New York University
Next stealth startup	
Seungjae "Jay" Lee	2023 – 24, MS @ Seoul National University
Next Ph.D. at UMD	
Zhanqiu "Jack" Guo	2023 – 24, BS @ New York University
Next MS at CMU	
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	
Yibin Wang	2022 – 24, BS, MS @ New York University
Next Ph.D. at Northwestern University	
Anant Rai	2022 – 23, MS @ New York University
Next at 1X Technologies	
Yiqian "Eva" 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 Technologies	
Jyothish Pari	2020 – 21, BS @ New York University
Next Ph.D. at MIT	

Invited Talks

Memory As a Model of the World

ICCV workshop on Human-Robot-Scene Interaction and Collaboration	Oct. 2025
ICCV workshop on Reliable and Interactable World Models	Oct. 2025

On Building General, Zero-Shot Robot Policies

Cornell University CS 4756/5756: Robot Learning	Nov. 2024
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

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
Purdue University — Apr. 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

Teaching Experience

Graduate Deep Reinforcement Learning (CSCI-GA 3033-090) — Fall 2021
New York University
Graduate Teaching Assistant

Introduction to Machine Learning (6.036) $\times 2$
Jointly Instructed with **Applied Machine Learning (6.862)** — Spring & Fall 2019
Massachusetts Institute of Technology
Graduate Teaching Assistant

Principles of Discrete Applied Mathematics (18.200) — Fall 2018
Massachusetts Institute of Technology
Teaching Assistant (Grading)

Design and Analysis of Algorithms (6.046/18.410) — 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 and Deputy Leader for the National Math Team

Academic Service

Area Chair
Robotics — International Conference on Robotics and Automation (ICRA) ‘26

Workshop and Tutorial Organization
Program Committee, NYC Computer Vision Day ‘25
7th Workshop on Robot Learning @ ICLR ‘25
Tutorial on Supervised Policy Learning for Real Robots @ RSS ‘24
1st Workshop on Vision-Language Models for Navigation and Manipulation @ ICRA ‘24
1st Workshop on Learning Dexterous Manipulation @ RSS ‘23

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

Press Coverage

DynaMem: Online Dynamic Spatio-Semantic Memory for Open World Mobile Manipulation (coverage as part of Stretch AI)
The Robot Report, IEEE Spectrum

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

Preprints

† *Equal Contribution,* ‡ *Equal Advising. Works Presented Reverse Chronologically.*

[1] **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†, Rai, A.†, Etukuru, H., Liu, Y., Misra, I., Chintala, S., Pinto, L.

Refereed Publications

[2] **DynaMem: Online Dynamic Spatio-Semantic Memory for Open World Mobile Manipulation**
International Conference of Robotics and Automation (ICRA)
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***‡ & Pinto, L.‡

[3] **Robot Utility Models: General Policies for Zero-Shot Deployment in New Environments**
International Conference of Robotics and Automation (ICRA)
Best Demo Award at *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2025*
Etukuru, H.†, Naka, N., Hu, Z., Lee, S., Mehu, J., Edsinger, A., Paxton, C., Chintala, S., Pinto, L., ***Shafiullah, Nur Muhammad Mahi***†

[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.†, Orru, Y.†, Vakil, J., Paxton, C., ***Shafiullah, Nur Muhammad Mahi***‡ & Pinto, L.‡

[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***[‡] & Pinto, L.[‡]

[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.[†], ***Shafiullah, Nur Muhammad Mahi***[†], 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.

Research Software

[13] **AnySense: An iPhone App for Multi-sensory Data Collection and Learning** `anysense.app`
Bhirangi, R., Bian, Z., Pattabiraman, V., Etukuru, H., Erciyes, M., , ***Shafiullah, Nur Muhammad Mahi***, Pinto, L.

Outreach, Volunteering, & Social Good

Mentor, Ph.D. Application Advising, NYU GRAIL	2021–2025
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
Editor (Photography), The Tech, MIT's Student Newspaper	2017-19
MIT Peer Mentoring Program	2017–18
Co-president, MIT Bangladeshi Students Association	2016-18
Co-president, MIT International Students Association	2016-17
Volunteer Tutor, MIT HKN Honor Society	2015–17
Mentor, Bangladesh Olympiad in Informatics	2014–2015
Mentor, Bangladesh Mathematical Olympiad	2010–2015

References

1. **Jitendra Malik**, *Professor of EECS, UC Berkeley*. malik@eecs.berkeley.edu
2. **Russ Tedrake**, *Professor of EECS, Aero/Astro, MechE, MIT*. russt@mit.edu
3. **Abhinav Gupta**, *Professor, CMU Robotics Institute*. abhinavg@cs.cmu.edu
4. **Rob Fergus**, *Professor of CS, NYU Courant*. fergus@cs.nyu.edu
5. **Lerrel Pinto**, *Assistant Professor of CS, NYU Courant*. lerrel@cs.nyu.edu
6. **Charles C. Kemp**, *Cofounder & Chief Technology Officer, Hello Robot Inc. Previously Associate Professor, Georgia Institute of Technology.* ck@hello-robot.com