Hrishikesh Sathyanarayan

Contact	17 Hillhouse Avenue, New Haven, CT, 06511	hrishi.sathyanarayan@yale.edu github.io

Interests	*Data-efficient Robot Learning, Optimal Control, Contact Dynamics, Information Theory, Probabilistic Robotics, Machine Learning*
Languages	Python, C, C++, Assembly, Bash, HTML, JavaScript, MATLAB
Frameworks	Pytorch, TensorFlow, Jax, SciKit, Robot Operating System (ROS), Docker
Tools	GitHub, LaTeX, LabVIEW, SOLIDWORKS
Platforms	Linux, Windows, Docker, Arduino, Raspberry Pi, Nvidia CUDA/cuDNN

Education

Yale University, New Haven, CT, USA **2023-2027**
Ph.D., *Robotics (Department of Mechanical Engineering)*
Advisor: Ian Abraham

Rutgers University, New Brunswick, NJ, USA **2019-2023**
B.S., *Aerospace Engineering*
GPA: 3.8/4.0 *(Summa Cum Laude)*

Publications

H. Sathyanarayan, V. Vantilborgh, and I. Abraham, "Quality Over Quantity: Curating Contact-Based Robot Datasets Improves Learning.", *In Submission,* 2025. [Online]. Available: https://arxiv.org/abs/2510.18137

Hrishikesh Sathyanarayan and Ian Abraham (2025). Behavior Synthesis via Contact-Aware Fisher Information Maximization. *In Proceedings of Robotics: Science and Systems (RSS).*

X. Chen, **H. Sathyanarayan**, Y. Gong, J. Yi and H. Wang, "Dynamic Tire/Road Friction Estimation With Embedded Flexible Force Sensors," in *IEEE Sensors Journal*, vol. 23, no. 21, pp. 26608-26619, 1 Nov.1, 2023, doi: 10.1109/JSEN.2023.3313002.

Y. Gong, X. Chen, **H. Sathyanarayan**, J. Yi and H. Wang, "A Multifunctional Scaled Testbed for Aircraft Tire-Runway Frictional Interactions Evaluation," in *IEEE/ASME Transactions on Mechatronics,* doi: 10.1109/TMECH.2024.3489274.

Workshop Papers

(Spotlight Presentation) **Hrishikesh Sathyanarayan** and Ian Abraham, Structured Parameter Learning via Contact-Aware Fisher Information Maximization. *Workshop on Structured Learning for Efficient, Reliable, and Transparent Robots, International Conference in Robotics and Automation (ICRA), 2025.*

(Spotlight Presentation) **Hrishikesh Sathyanarayan** and Ian Abraham, Exciting Contact Modes in Differentiable Simulation for Robot Learning. *Differentiable Optimization Everywhere: Simulation, Estimation, Learning, and Control, Conference on Robot Learning (CoRL), 2024.*

Selected Symposium Presentations

Hrishikesh Sathyanarayan and Ian Abraham, Contact-Aware Optimal Experimental Learning. *New England Manipulation Symposium (NEMS), Boston, Massachusetts, 2024.*

Hrishikesh Sathyanarayan, Feng Han, Jingang Yi, Design and Control of an Underactuated Bikebot, *James J. Slade Research Symposium, Piscataway, New Jersey, 2023*

Honors and Awards

Robert Apfel Graduate Fellowship **2023-2024**
Yale School of Engineering and Applied Science

James J. Slade Research Fellowship **2022-2023**
Rutgers School of Engineering

Aresty Undergraduate Research Fellowship **2021-2022**
Rutgers University

Dean's List **2019-2023**
Rutgers University

Teaching

MENG 390 01: Mechatronics Laboratory **Spring 2025**
Yale University, *Teaching Assistant*

ENAS 151 01: Multivariable Calculus for Engineers **Fall 2024**
Yale University, *Teaching Assistant*

Service and Leadership

Conference Paper Reviewing
International Conference on Robotics and Automation (ICRA) 2023, 2025.

Yale Undergraduate-Graduate Mentorship Initiative (YUMI) Mentor
Mentored undergraduate students on research, career paths and graduate studies, and life beyond Yale.

Yale Pathways to Science Primary Advisor (Summer 2025)
Primary research mentor to high school interns at Yale Intelligent Autonomy Lab.

Yale Intelligent Autonomy Laboratory Mentor (2024-Present)
Provided research mentorship to undergraduates at Yale Intelligent Autonomy Lab.

Aresty Undergraduate Research Journal Reviewer (2022-2023)
Reviewer of the 2023 edition of the Rutgers Aresty Undergraduate Research Journal.

Robotics, Automation, Mechatronics Laboratory Mentor (2022-2023)
Mentored undergraduate researchers in mechanical design and manufacturing.

Senior Design Capstone Project Leader (2022-2023) **Advisor:** Prof. F.J. Diez-Garias
Project: design and control a weather monitoring untethered drone.

References

Ian Abraham, Yale University [email: ian.abraham@yale.edu]
Assistant Professor of Mechanical Engineering and Computer Science

Jingang Yi, Rutgers University [email: jgyi@rutgers.edu]
Professor of Mechanical and Aerospace Engineering

Hao Wang, Rutgers University [email: hwang.cee@rutgers.edu]
Professor of Civil and Environmental Engineering