Stanford



Thomas A. Berrueta

Assistant Professor of Mechanical Engineering

Bio

BIO

Thomas Berrueta is an Assistant Professor of Mechanical Engineering at Stanford University. He received his M.S. (2019) and Ph.D. (2024) in Mechanical Engineering from Northwestern University, where he was named a Presidential Fellow, and his B.S. (2017) in Engineering from Harvey Mudd College. Prior to joining Stanford, he was a Postdoctoral Scholar in Computing + Mathematical Sciences at the California Institute of Technology, working toward learning and control of safety-critical autonomous systems.

At Stanford, he leads the Physical Active Learning (PAL) laboratory. The PAL Lab develops the foundations of robotic self-sufficiency, enabling agents to safely learn, rapidly adapt, and actively exploit their physical embodiment in real time. The lab tackles real-time robot learning on hardware, studying settings in which robots must keep learning continually and making decisions on-the-fly even when mistakes can be costly. Drawing on reinforcement learning, optimal control, information theory, physics, and beyond, the lab pushes to deploy its algorithms on complex, agile, high-performance hardware. From autonomous racecars on the track to robots out in the wild, our goal is to enrich how robots perceive, interact with, and adapt to the physical world.

ACADEMIC APPOINTMENTS

- Assistant Professor, Mechanical Engineering

HONORS AND AWARDS

- Presidential Fellow, Northwestern University (2022-2024)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- B.S., Harvey Mudd College , Engineering (2017)
- M.S., Northwestern University , Mechanical Engineering (2019)
- Ph.D., Northwestern University , Mechanical Engineering (2024)

LINKS

- Lab Website: https://pal.stanford.edu/
- Google Scholar: https://scholar.google.com/citations?user=iR9utFwAAAAJ&hl=en
- ORCID: https://orcid.org/0000-0002-3781-0934