

# Adam Allevato

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## Research and Work Experience

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- Pensa Systems** Apr 2020 - Present
- Deployed ROS software to fleet of autonomous edge devices (drones) using Docker and Ansible
  - Implemented flight control and robot behaviors in C++
- The University of Texas at Austin**
- Socially Intelligent Machines (SIM) Lab** 2017-2020
- Researching techniques for low-data machine learning in human environments by leveraging simulations.
  - Developing deep networks and simulation architecture to perform sim-to-real robot learning
- Nuclear and Applied Robotics Group (NRG)** 2014-2017
- Explored new computer vision and manipulation strategies for robots in radioactive gloveboxes.
  - Led student team to design a robotic workcell for nuclear waste sorting and part manufacturing.
- Diligent Robotics: Engineering Intern** Summer 2018
- Set up and maintained continuous integration/deployment, unit tests across Agile company
  - Designed and implemented numerous ROS packages, e.g. data pipelines, motion planning
  - Software: Docker, CircleCI, C++, Python, ROS, MoveIt
- Open Robotics (formerly OSRF): Software Engineering Intern** Summer 2017
- Improved and extended camera distortion models in Gazebo simulator.
  - Created the first fully-functional ROS2 pick-and-place demo, presented at ROSCon 2017.
  - Software: C++, Python, ROS2, Gazebo
- Amazon Picking Challenge** 2015
- Implemented algorithms using Point Cloud Library, machine learning, and synthetic training data to classify and detect 15 types of household objects.

## Education

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- The University of Texas at Austin**, Austin, TX 2016-2020  
PhD, Mechanical Engineering, Robotics Portfolio Program  
Advisors: Andrea Thomaz, Mitch Pryor
- The University of Texas at Austin**, Austin, TX 2014-2016  
Masters of Science, Mechanical Engineering  
Advisor: Mitch Pryor  
*Thesis: An Object Recognition and Pose Estimation Library for Intelligent Industrial Automation*
- Colorado State University**, Fort Collins, CO 2010-2014  
Bachelor of Science, *summa cum laude*, Mechanical Engineering

## Additional Work Experience

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- Los Alamos National Laboratory: Graduate Research Associate** Summer 2015/2016
- Morgan Stanley: Summer Analyst** Summer 2013
- United Launch Alliance: Intern** Summer 2012
- CSU Cardiovascular and BioFluid Mechanics Lab: Research Assistant** Spring 2012
- Rocky Mountain Student Media Corporation: Webmaster** February 2011-May 2014

## Journal Publications

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- A. **Allevato**, E. S. Short, M. Pryor, A. Thomaz. "Multiparameter Real-World System Identification using Iterative Residual Tuning". Submitted to *Journal of Mechanisms and Robotics*.
- A. **Allevato**, E. S. Short, M. Pryor, A. Thomaz. "Iterative Residual Tuning for System Identification and Sim-to-Real Robot Learning". *Autonomous Robots*. 2020.

## Conference Publications

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- A. **Allevato**, E. S. Short, M. Pryor, A. Thomaz. "Model and Controller Adaptation with Unknown Human Preferences". Submitted to *International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*. 2021.
- A. **Allevato**, M. Pryor, A. Thomaz. "Multidimensional System Identification using Iterative Residual Tuning". *ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC-CIE)*. 2020.
- A. **Allevato**, E. S. Short, M. Pryor, A. Thomaz. "Learning Labeled Robot Affordance Models by using Simulations and Crowdsourcing". To appear at *Robotics: Science and Systems (RSS)*. 2020.
- A. **Allevato**, E. S. Short, M. Pryor, A. Thomaz. "TuneNet: One-Shot Simulation Tuning for Physics Prediction and Robot Task Planning". *Conference on Robot Learning (CoRL)*. 2019. [GitHub](#), [Video](#), [ImportAI](#)
- E. S. Short, A. **Allevato**, M. Pryor, A. Thomaz. "SAIL: Simulation-Informed Active In-the-Wild Learning". *International Conference on Human-Robot Interaction (HRI)*. 2019.
- A. **Allevato**, A. Thomaz, M. Pryor. "Affordance Discovery using Simulated Exploration". *International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*. 2018.
- E. Paredes, C. Petlowany, M. Horn, A. **Allevato**, M. Pryor. "Automated glovebox workcell design". *Waste Management Symposium*. 2018.
- A. **Allevato**, M. Horn, M. Pryor. "Demonstrating Autonomous and Robust Sorting in a Glovebox Environment". *American Nuclear Society Decommissioning and Remote Systems*. 2016.
- A. **Allevato**, M. Pryor. "Characterizing Glovebox Automation Tasks using Partially Observable Markov Decision Processes". *American Nuclear Society Decommissioning and Remote Systems*. 2016.

## Honors and Awards

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US DOE Nuclear Energy University Program (NEUP) Fellow	2015-2018
AP-Google Scholarship	2013-2014
Undergraduate Academic Excellence award, CSU School of Mechanical Engineering	2013
Tau Beta Pi Mechanical Engineering Honor Society	2013-2015
CSU College of Engineering Dean's List	2011-2014
Colorado State University Honors Program	2010-2014