CHRISTOPHER THIERAUF

Roboticist, PhD Student

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WHO AM I?

Robotics engineer currently working as a graduate research assistant while pursuing a PhD in Human-Robot Interaction from the HRI Lab at Tufts University. I'm interested in designing, building, and programming robots and systems that allow us to better explore robots in human domains.

RESEARCH

Research in resilience in human-robot interaction, involving topics ranging from machine learning, vision processing, kinematics, cognitive architectures, and robot design.

LANGUAGES

Comfort in Python, Java, C, C++, Bash, Some experience with x86 Assembly, R, Prolog, F#

DEVICES

Fetch Robotics 'Fetch', Universal Robots 'UR5', Kinova 'ULeA', Willow Garage 'PR2'

FRAMEWORKS

ROS1, ROS2, MoveIt, ROS_Control, OpenCV, PCL, Gazebo, PyBullet

OTHER SKILLS

Advanced CLI usage, Proficency in mechanical design and FDM, Comfort with electrical design and debug

EDUCATION

Ongoing

2020 – Present (est. 2026) — **PhD, Human-Robot Interaction** — **Tufts University**
Joint PhD in Computer Science and Psychology.

2020 – Present (est. 2022) — **MSc, Human-Robot Interaction** — **Tufts University**
Joint Masters in Computer Science and Psychology.
Research focusing on resilient robots in human domains.

Completed

2016 – 2020 — **BSc, Computer Science (minoring in Applied Mathematics)** — **Wentworth Institute of Technology**
Bachelor's in Computer Science, with emphasis on robotics.

RESEARCH

Graduate Level

2021 — **Refereed Conference Paper** — **ICRA 2021**
"Robot Development and Path Planning for Indoor Ultraviolet Light Disinfection." *Jonathan Conroy, **Christopher Thierauf**, Parker Rule, Evan Krause, Hugo Akitaya, Andrei Gonczi, Matias Korman, Matthias Scheutz.* Proceedings of the 2021 IEEE International Conference on Robotics and Automation.

Undergraduate Level

2019 — **Lecture** — **LibrePlanet 2019**
"Free Software in the 3D Printing Community." ***Christopher Thierauf***. LibrePlanet 2019.

2018 — **Refereed Conference Paper** — **IEEE MIT URTC 2018**
"Networking 3D Printers with Printfarmer." ***Christopher Thierauf***. IEEE MIT Undergraduate Research Technology Conference, 2018.

2018 — **Fulfilled Grant Requirements** — **Northeast SARE FNE18-893**
"Laser Scarecrow Prototype." *Stephen Chomyszak, Nick Stratton, **Christopher Thierauf**, Ken Costa.* In fulfillment of SARE FNE18-893 awarded to Elliot Farm.

EXPERIENCE

Summer 2021 **Graduate Robotics Co-Op** **Thinking Robots, Inc.**
Designed and manufactured robot add-ons to meet grant requirements for mobile disinfection system. Wrote code to accompany robot add-ons.

May '20 – Present **Graduate Research Assistant, Human-Robot Interaction** **Tufts University**
Conducted research on behalf of Matthias Scheutz in the Human-Robot Interaction Lab, Tufts University

Fall 2019 **Software Engineering Co-Op** **Thinking Robots, Inc.**
Wrote code to interface between natural language goal-control system and humanoid robot.

Spring 2019 **Undergraduate Research Assistant, Human-Robot Interaction** **Tufts University**
Wrote code contributing to grant for assitive robotics system interfacing natural language to a 7-DoF arm.

Summer 2018 **Undergraduate Research Assistant, Additive Manufacturing** **Wentworth Institute of Technology**
Contributed to software, electrical, and mechanical design of novel 3D printing system.

PROJECTS

2020 **Open Source Contributions**
Authored, maintained, and released packages to the ROS repositories: `gpio_control` and `rosactive`.

2016 – 2019 **Underwater ROV** **MATE International ROV competition**
Wrote code to control 3 complex electromechanical platforms to complete underwater tasks. Later led software development team.

2016 **Spectral Digitizer**
Wrote code to control stepper motor at high precision. Project goal was to create a machine to digitize physical records of elemental spectra per request of NIST.