

# Samuel R. Zapolsky PhD

<https://samzapo.github.io/>

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## Bio

I develop software and hardware components for strong, precise, and fast-moving robots and, in particular, am an expert at assembling such components into a robust and reactive robotic system. I specialize in research and development for high performance, contact-based manipulation and locomotion tasks, as well as leading a team of experts to do the same.

## Experience

### Dextrous Robotics

*Co-founder & Chief Technology Officer (CTO)*

Memphis, TN

*July 2019 – Dec 2023*

- Led a team of several engineers to build and productize the [DX-1 robot](#).
- Architected and programmed real-time-capable planning, perception, and controls software.

### Toyota Research Institute (TRI)

*Research Scientist*

Los Altos, CA

*Apr 2017 – June 2019*

*Liaison with Stanford University Robotics Labs*

**Cloud Robotics Group:** Hardware and Controls Lead (*Apr 2017 – Dec 2017*)

- Designed and integrated several, morphologically different mobile manipulator prototypes.
- Developed controllers and a reactive planning system for an in-home robotic assistant.

**Shared Autonomy Group** (*Jan 2017 – June 2019*)

- Developed a safe teleoperation framework for a mobile manipulator telepresence platform.
- Led team hardware and product design effort.

## Skills

- People and technical management of engineering teams solving complex problems
- C++ development for real-time-capable robot planning and control systems
- Simulation design and use for multibody dynamics systems with intermittent contact
- Mechanical and controller design for robotic systems to minimize errors during sim-to-real transfer
- Swiftly debugging massive, controlled electro-mechanical systems
- Communicating with external expertise: sales engineers, contractors, machinists and technical writers

## Education

**George Washington University, School of Engineering and Applied Sciences**

PhD in Computer Science specializing in Robotics and Artificial Intelligence

Washington, DC

Sep 2012 – Feb 2017

**George Washington University, Elliott School of International Affairs**

Bachelor of Arts in Economics and International Affairs

Washington, DC

Aug 2008 -- May 2012