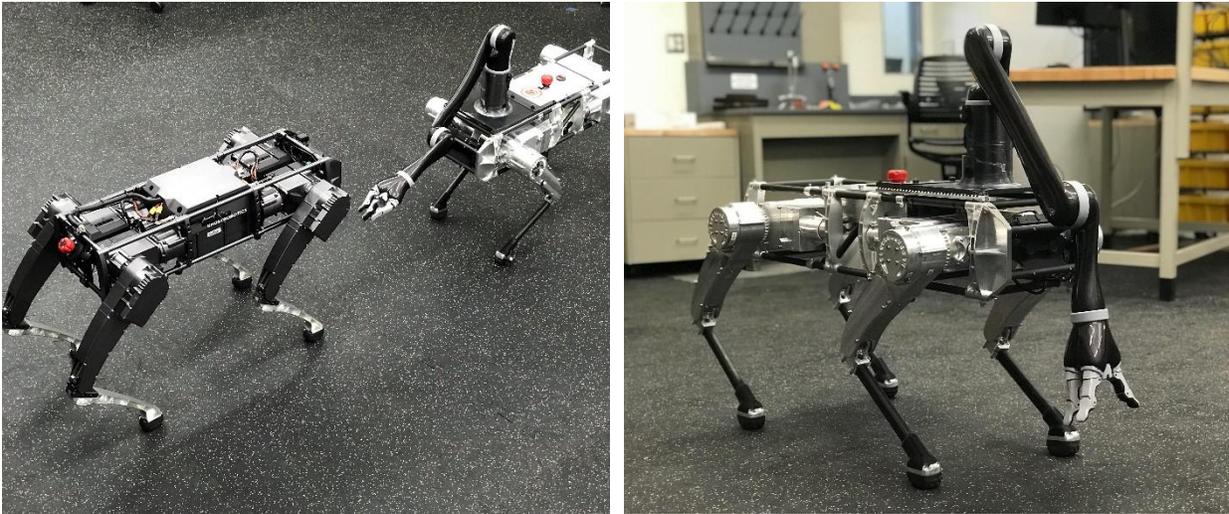


PhD Positions in Robotics and Controls at Virginia Tech

Position Description:

There are **multiple GRA positions** available in the [Hybrid Dynamic Systems and Robot Locomotion Lab](#) in the [Mechanical Engineering Department](#) at [Virginia Tech](#). We are looking for motivated and talented graduate students from all over the world, who wish to undertake **PhD research** at the cutting edge of robotics and controls (**multi-year** GRA positions with start in Spring 2020 or Fall 2020). The PhD students in these positions will develop intelligent, robust, and nonlinear control algorithms for agile locomotion of legged robots in real-world environments. The theoretical results will be experimentally evaluated on already existing and advanced [legged machines](#) in the lab.



Desired Skills:

The desired candidates hold a BS or MS degree in Engineering (preferably ME, ECE, AE), Computer Science, or related fields. The candidates for this position should have a strong background in programming, controls, robotics, and optimization. In particular, we would like to encourage candidates who have at least four of the following skills to apply.

- Strong programming skills in C/C++, MATLAB, and ROS
- Experience with real-time implementation of control algorithms on hardware
- Strong background in controls (state-space approaches, e.g., nonlinear control)
- Experience with optimization techniques (e.g., LP, QP, or NLP)
- Strong background in robotics (dynamic modeling and numerical simulations)
- Strong background in machine learning techniques and computer vision.

How to apply?

If interested in these positions, please kindly e-mail Dr. Akbari Hamed at kavehakbarihamed@vt.edu with the subject line “**PhD Positions in Legged Locomotion**” and attach a **cover letter** together with a **resume/CV**. Incomplete applications will not be considered.

About the Lab:

[Hybrid Dynamic Systems and Robot Locomotion \(HDSRL\) Laboratory](#) is located in the Department of Mechanical Engineering at Virginia Tech and led by [Dr. Kaveh Akbari Hamed](#). Our primary academic interests span control theory, robotics, cyber-physical systems, hybrid dynamical systems, and optimization. Our research goal is to establish a firm foundation to create innovative algorithms to systematically design resilient controllers for a wide range of dynamical systems with nonlinear and hybrid nature. These systems include, but are not limited to, (1) autonomous robots for disaster response and industrial applications, (2) cooperative multiagent systems with decentralized control policies, (3) walking and running robots with human/animal morphology, (4) complex systems, and (5) wearable robots like prostheses and orthoses to improve the quality of life for persons with disabilities .