Available PhD Position in Robotics and Controls

One doctoral student position in “Nonlinear Control of Legged Robots” is available at Department of Mechanical Engineering, San Diego State University (SDSU), San Diego, CA, USA. The start time is Fall 2016 semester and the position is fully funded.

Position Description

During the past few years, there has been an accelerated effort to design emergency response legged robots. While the technology involved in robot construction is advancing rapidly, the feedback control theory needed to stabilize trajectories for the dynamical models of these robots is lagging behind. The objective of this research position is to develop systematic nonlinear control algorithms for agile and robust walking of increasingly sophisticated legged machines. The mathematical innovations will present a unique opportunity to develop control algorithms for an advanced 3D quadruped robot at SDSU, developed for research purposes.

Who Can Apply?

We are looking for a motivated, talented graduate student from all over the world, who wish to undertake PhD research at the cutting edge of optimization and real-time nonlinear control of sophisticated legged robots. The desired candidate holds a MS or BS degree in Engineering (preferably ECE, ME, AE), (Applied) Mathematics, Computer science, or related fields. The candidates for these position should have a strong background on mathematics, programming, and hardware. In particular, we are interested in the following skills:

1. Strong programming skills: C/C++ and MATLAB/Simulink (Strongly required)
2. RTX based real-time control system and CAN interface to control the quadruped robot (Strongly required)
3. Implementing feedback control in hardware (Strongly required)
4. Strong mathematical background on systems and control theory (required)
5. Simulation of dynamical systems (required)
6. Background on optimization
7. Proficiency in oral and written English (required)
8. An academic record showing excellent analytical skills (required).

How to Apply?

If interested in this position, please e-mail Prof. Kaveh Akbari Hamed at kakbarihamed@mail.sdsu.edu with the title “Robotics PhD Position: Your Name” and following documents as PDF attachments:
1. Cover Letter
2. Detailed Resume/CV
3. GRE and TOEFL Grades
4. Sample Programming and Real-Time Control Work
5. Sample Publications (if you are a MS student)
6. List of Three References.

Incomplete applications will not be considered.

For more information on how to apply, you can visit the following webpages:
http://www-rohan.sdsu.edu/~kavehah/
https://newscenter.sdsu.edu/engineering/joint_doctoral_program.aspx

Deadline
February 1, 2016.

About the Doctoral Program

SDSU is the largest university in San Diego and the fifth largest in California. According to
the Carnegie Foundation, SDSU is a research university with “High Research Activity (RU/H)”.
SDSU, in collaboration with the University of California, San Diego, offers four doctoral degrees
(PhD) in: Engineering Science (Aerospace and Mechanical), Engineering Science (Bioengineering),
Engineering Science (Electrical and Computer), and Engineering Science (Structural). Each of the
distinctive programs involves graduate level courses and research projects under the supervision of
SDSU faculty in the fields of Aerospace, Mechanical, Civil, Construction, Electrical, and Computer
Engineering with cooperating faculty from the University of California, San Diego. The PhD degree
is awarded jointly by the two institutions.

About the City

San Diego is a major city in California, on the coast of the Pacific Ocean in Southern Califor-
nia, approximately 120 miles (190 km) south of Los Angeles and immediately adjacent to the
border with Mexico. With an estimated population of 1,381,069 as of July 1, 2014, San Diego
is the eighth-largest city in the United States and second-largest in California. San Diego is the
birthplace of California and is known for its mild year-round climate, natural deep-water harbor,
extensive beaches, long association with the U.S. Navy, and recent emergence as a healthcare and
biotechnology development center.