Legged Robot Mechanical Design Position

The Hybrid Robotics Group is looking for enthusiastic masters and undergraduate students to design and build a small 3D bipedal legged robotic platform. The work involves designing a two legged robot with a 50cm leg length that draws inspiration from novel leg designs such as the MIT Cheetah, ATRIAS, CASSIE, etc. The student will choose and size motors and transmission based on expected leg force to generate at the foot. The student will create a CAD model, and 3D print the result with composite materials (nylon / carbon fiber / Kevlar / fiberglass) to fabricate an impact-resistant leg. This position will involve working with Prof. Koushil Sreenath and his PhD student(s).

Qualifications:
1. Current Junior, Senior or Masters student in Mechanical Engineering.
2. Knowledge in one or more of the following areas: Mechanical Design, Computer Aided Design (CAD), Finite Element Analysis (FEA).
3. Proficient in CAD software such as SolidWorks / ProE / or equivalent.
4. Experience with additive manufacturing (3D printing) / machining / Computer Numerical Control (CNC).

Good to have:
1. Experience with choosing electric motors and amplifiers, encoders, and embedded processors.
2. Computer programming in MATLAB, C++.

Who we are:
Our research lies at the intersection of applied Nonlinear Control and Hybrid Dynamic Robotics. Our goal is to design controllers for achieving dynamic, fast, energy-efficient, and robust maneuvers on hybrid and underactuated systems such as legged and aerial robots. See hybrid-robotics.berkeley.edu for more details.

Joining:
If you'd like to get hands-on experience in this exciting research area, please (i) email Ayush Agrawal at ayush.agrawal@berkeley.edu with subject “LRMD Position”. (ii) Attach a resume that lists your interests and technical strengths, past courses, and projects. (iii) In your email include a brief list of bullet points on why you are a good fit for this position.