**Yunfan REN**

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**EDUCATION**

**School of Mechanical Engineering and Automation, Harbin Institute of Technology** Sep 2017 – June 2021

* B.E. in Automation Overall GPA: 85.3 out of 100
* Computational Statistic (95/100)
* Design and control experiment of Autonomous Driving vehicle (94/100)
* Mathematical Analysis C (93/100)

**The University of California, Berkeley**  Fec 2020 – May 2020

* Feedback control system

**RESEARCH PUBLICATIONS**

Yunfan Ren, Zhi Li, Chenxi Wang, Yuwen Deng. Design, Control and Analysis of a Dual-arm Continuum Flexible Robot System. International Conference on Robotics and Biomimetics (ROBIO) 2019.

**RESEARCH EXPERIENCE**

**Dual-arm Continuum Flexible Robot System**| Harbin Institute of Technology | Research Assistant Feb 2019- Oct. 2019 Advisor: Shuang Song, assistant professor at School of Mechanical Engineering and Automation, Harbin Institute of Technology

* Structural innovation and customized the motion control algorithm make them much smaller than traditional robot arms.
* Can easily move around in narrow cavities, and help medical workers perform operations.
* This work gave an oral presentation at the 2019 IEEE International Conference on Robotics and Biomimetics.

**CPG based parallel quadruped robot** | Harbin Institute of Technology | Research Assistant Feb 2019- May 2019 Advisor: Yunjiang Lou, professor and dean at School of Mechanical Engineering and Automation, Harbin Institute of Technology. IEEE fellow.

* Use a DE called Hoff oscillator to complete the gait generation of the quadruped robot with very low computational complexity.
* Drew on the ideas from the Central Pattern Generator (CPG) method, adopted my own equations and applied them to the parallel eight-degree-of-freedom quadruped robot.
* Applied to the National University Student Robot Competition and won the National Second Prize

**Omnidirectional mobile skateboard**| Harbin Institute of Technology | Research Assistant Feb 2019- Oct. 2019 Advisor:Yunjiang Lou.

* Innovation 3-degree-of-freedom omnidirectional skateboard with minimal wheels and motors.(which contain only 2 wheels and 3 motors)
* Custom-made control algorithms.
* Having filed a Chinese Invention patent as the first-author to protect there research results

**OPENSOURCE CONTRIBUTION**

I have open sourced many project results I have done on my personal pages **<https://renyunfan.github.io/>**, there are more than 10 projects in different areas and some of them were listed below:

* V-SLAM-UAV based Drone rescue competition.
* Real Time Digital Image Process with CUDA and Python.
* ROS mobile robot formation.

**SKILLS**

* 3 years’ programming and engineering experience, solid expertise on C++, Python, and Bash
* Expertise Robot Operating System (ROS) and OpenCV.
* Abundant experience on embedded programming, such as STM32 and Arduino.
* Proficient in 3D modeling software such as: SolidWorks V-Rep