Weijia Wu

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Education

Sep 2017 - Now: Master of Technology Innovation(MSTI, Dual-Degree), **University of Washington**
Master of Engineering in Data Science & Information Technology(MEDSIT), **Tsinghua University**

Sep 2013 - Jul 2017: Undergraduate, Department of Automation, **Tsinghua University**

- Participating in the Sparks Program (Undergraduate High-tech Club)
- Cai Xiong Scholarship and China Instrument Scholarship

Research Experience

Mar 2018 - Now | **Probabilistic Inference for Learning Control Acceleration**
Accelerate the PILCO algorithm with the Model Predictive Control in the policy improvement. Use a recursive method to calculate inverse matrix with Cholesky decomposition. The target is to learn to manipulate the robot to learn tasks on-the-fly.

Oct 2015 - Jun 2016 | **Medical pressure sampling system, the first author**
Designed and debugged the relevant circuits with the force sensors.
Used ZigBee wireless networking solution based on CC2530 to build IoT.
The system was used in Chengdu Second People's Hospital and the project was selected in the Students' Innovation and Entrepreneurship Training Program of Beijing.
Paper "Medical pressure acquisition system" was published in the 9^{th} CTC'16, Nantong, China.

Jun 2016 - Sep 2016 | **Internship in UCSD, department of bio-medical informatics**
Setup the framework of the privacy-preserving genomic data application.
The abstract "Secure Compressed Genomic Data Analysis in a Cloud Environment" is dropped in the meeting Biological Data Science in Cold Spring Harbor Laboratory.

Project Experience

Jan 2017 - Jun 2017 | **The design and the application of the solar-thermal control system, the first author**
Combined the open-loop control based on the algorithm of solar position and the closed-loop control based on a four-quadrant sensor to control the disk track sun precisely.
Built up the hardware control platform to achieve the above control algorithm. After the verification the precision of the tracking system is within $\pm 0.05^{\circ}$

Feb 2015 - May 2015 | **The balance control for inertia wheel Inverted Pendulum, the first author**
Designed and built the mechanical structure and the embedded system.
Used the brushless motor control solution based on FOC (field-oriented-control) technology and got attitude information of the inverted pendulum by MPU 6050.
Designed a multi-loop control algorithm to realize longtime balance, anti-disturbance and swing up. It was selected as the excellent project in the department of automation.

Jul 2015 - Aug 2015 | **The International Digital Contest(IDC, ROBOCON)**
Designed and built the mechanical structure of the robot and coordinated the work of my teammates from different countries. Our team won the second prize in the contest.

Skills

Launguage:	Bilingual in Mandarin and English
Programming:	C, C++, JavaScript, Python, Matlab
Softwares:	Altium designer, Code Composer Studio, Keil, SolidWorks, Quartus II
Control Algorithm:	Brushless motor control and automatic control algorithm.
Electric design:	Basic analog and digital circuits design, PCB layout.
Machine Learning:	Familiar with machine learning platform like Pytorch and AI algorithms like Bayes classifier, KNN, SOM, SVM, CNN, FCN, RL.