Weijia Wu

Bellevue, WA | +1 (206) 327-8345 | wuweijia1994@gmail.com | wuweijia1994.github.io

Skills

Programming:	C/C++(2 years), Python(1 year), ROS, Matlab
Control Algorithm:	Automatic control algorithm with hands-on experience in Brushless motor control.
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 and Reinforcement Learning.

Work Experience

Jun 2017 - Sep 2017 **Internship @ Pipe Delivery Start-Up(Pearson)**
Designed the underground cargo pipe-delivery system(including the structure of the truck, rail, conveyor belt with multi-layer exchange system). Implemented the demo of an unmanned terminal express system.

Project Experience

Jan 2017 - Jun 2017 **The design and the application of the solar-thermal control system, Team Leader**
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, Individual Project**
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 structure of the robot and coordinated the work of my teammates from different countries. Our team won the second prize in the contest of 10 teams .

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.

Education

Sep 2017 - Jun 2019 Master of Technology Innovation(MSTI), **University of Washington**
Jun - Aug 2016 Visiting student in Bio-Informatics Lab, **University of California, San Diego**
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