Haiping JIANG

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Education

Columbia University, New York, US Aug 2018-expected Feb 2020
M.S. of Mechanical Engineering
Selected Courses: Machine Learning / AI / Analysis of Algorithms

Huazhong University of Science and Technology (HUST), Wuhan, China Sep 2014-Jul 2018
B.S. in Mechanical Design, Manufacturing and Automation, honor class (30 out of 400) **GPA**: 3.71/4.0

Projects

Selected Projects in Columbia University:

- Kaggle Competition: Fair Classification of Predicting the Income Level (Categorization Accuracy: 0.84) May 2019
- Design of Gravity Balanced Systems with Workspace in 3D (https://github.com/dadaluoyu/Adv-Topics-in-Robotics) May 2019
- Implement learning forward dynamics of a 3-link robot using Deep Learning by Pytorch in ROS Apr 2019
- Implement a Deep Q-learning algorithm on a cartpole system to control the robot to balance the pole Apr 2019 (https://github.com/dadaluoyu/Robotics-and-Robot-Learning)
- Evolutionary Evolved Soft Robot Simulation & Design Automation (https://youtu.be/7f3ZZcBdhls) Dec 2018

Web Application Development of a Course Registration System: Sep 2019

- Designed and implemented a single page application which supports role-based functionalities: course registration or modification by student/ course information editing or exhibition by teacher
- Built responsive front-end UI for supporting functionalities and divided web elements into components with performances and usability, using HTML/CSS based on Angular 6
- Implemented authentication and authorization functionalities for user-role based course registration which supports add/delete/edit registration information, using Restful API, Hibernate and MySQL
- Leveraged EC2, S3 at AWS for managing database and files on Cloud in a more secure and stable way

Experiences

Development of Robotic Assistive Devices for Prevention of Slip and Fall | Rutgers | Research Assistant Jul 2017-Sep 2017

- Measured and processed human slip experimental data using the Motion Capture system, VICON
- Made a biped robot slip simulation with collected data and improved the controller of Optimization-Based Full-Body Control
- Compared the dynamics model with velocity and joint angles in simulation and verified the accuracy of the simulation

Automated Guided Wheeled Robot Based on Soft PLC | HUST | Team Leader Nov 2016-Sep 2017

- Adopted Mecanum-wheels to reduce turning radius and designed a separate layout to easily maintain and disassemble
- Designed an automatic obstacle avoidance method by applying the shortest path algorithm in forms of Structured Text
- Developed an interactive mode between two cooperative wheeled robots to solve conflicts in path planning

Human Body Modeling and Control in Virtual Reality Environment | HUST | Independent Researcher Oct 2016-Sep 2017

- Constructed a set of solutions to improve patients' comfort during rehabilitation by using Virtual Reality
- Built a runtime software system in C# using the motion-sensing device, Kinect, to identify human position and posture
- Established a complete 3D human body model in Unity and generated facial contour with 3D scanner, Scanify
- Implemented the inverse kinematics of the human 3D model in Unity, synchronized the model with the robot on a specified trajectory, and applied the process in Hololens, Microsoft's augmented reality head-worn display

Additional Qualities

Certificate: Engineer of Computer Aided Technology Certificate of Completion (3D CAD Engineer) Jun 19 2015