Mr. Dian YUAN

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PROFILE

Research Interest: Robotic, Control System, CPS.

Language Skills:
- Chinese: native
- English: fluent (IELTS 7.0)
- German: intermediate (CEFR-B2)

Computer Software: C&C++, ROS, Python, Matlab/Simulink, Web, CAD

EDUCATION EXPERIENCE

04/2021-now **Technical University of Munich,** Munich, Germany
- 3rd semester master student in **Mechatronics and Robotics**.

09/2016-06/2020 **Zhejiang University**, Hangzhou, China
- Bachelor of Engineering with major in **Mechatronics Engineering**. (GPA 3.63/4.0)

INTERNSHIP EXPERIENCE

08/2020-03/2021 **Wuxi Xuelang Industrial Intelligence Technology Co., Ltd.,** Hangzhou, China.

Business Architect Intern, Department of Machine Intelligence
- Providing intelligent system solutions for factories.
- Using the industrial Internet platform *Xuelang OS* to develop intelligent controllers for specific industrial processes.

07/2019-09/2019 **Dresden University of Technology,** Dresden, Germany

Research Intern, Institute of Automation, supervised by Prof. Dr. techn. Klaus Janschek
- Working in the Group for Model-based Engineering for building a laboratory CPS-demonstrator "Safe Town" for autonomous driving in city area.
- Model-based software development using Simulink framework for Lego Mindstorm.
- Test and optimization of algorithms for road following.
- Design and improvements for obstacle detection and vehicle-to-vehicle communication systems.

RESEARCH EXPERIENCE

11/2019-06/2020

Graduation Project: ***Digital Modeling and Capability Simulation Optimization of a Shaft Production Line.***
- Established the 3D digital model of the shaft production line and realized digital twinning.
- Simulated production capacity of the production line, and methods such as genetic algorithm were used to improve the production capacity.

03/2019-06/2020

Research assistant (part-time) in ***State Key Laboratory of Fluid Power & Mechatronic Systems.***
- Participated in scientific research projects related to soft robots, mainly including pneumatic controller design, sensor selection and debugging.
- Participated in fluid research related scientific research projects, mainly including experimental platform design, data processing and computational fluid simulation.

ACADEMIC STUDIES & PROJECTS

06/2022-08/2022

Course Project - ***Autonomous Quadruped***
- Use perception to detect obstacles and plan path.
- Control quadruped robots to complete parkour tasks (Simulation with ROS & Unity).

04/2022-07/2022

Robot Modeling, Identification, and Control Practicum
- Modeling, Identification and Independent joint/Computed torque/Impedance/Adaptive control on 2/3 link robot.

12/2021-03/2022

Course Project - ***Using quadrotor UAV to complete specified tasks in specific scenario.***
- Fly over avalanche scenarios and locate victims by gradient descent and RSSI localization method.
- Using C++, ROS, Ubuntu, Docker, git etc.

04/2021-07/2021

Course Project - ***Optimization and Parallelization on Gaussian Elimination***.
- Parallelization of Gaussian elimination algorithms using OpenMP, MPI, SIMD methods and achieve a speedup of around 10 on a 16-thread server.