

RUNNAN ZOU

Tel.: +1 613 261 6995 Email: rzou043@uottawa.ca

EDUCATION

University of Ottawa

Master of Applied Science in Mechanical Engineering

Major: Mechanical Engineering

GPA: 9.6/10

Ottawa, Canada

September 2020 – now

Beijing Institute of Technology

Master of Science in Mechanical Engineering

Major: Mechanical Engineering

GPA: 80.59/100 (ranking: top 15%)

Beijing, China

September 2017 – June 2020

Technische Universitaet Berlin

Summer Session

Practical Design & Production with 3D Printing Technology

Berlin, Germany

July 2017 – August 2017

Beijing Institute of Technology

Bachelor of Science in Mechanical Engineering

Xu Teli Elite Class

GPA: 80.99/100 (ranking: top 15%)

Beijing, China

September 2013 – June 2017

ACADEMIC RESEARCH EXPERIENCE

National Engineering Laboratory for Electric Vehicles, Beijing Institute of Technology

Core researcher

Project: Research on Energy Management Strategy of Hybrid Power Source

Advisor: Chenxing Hu

June 2019 – August 2019

- Proposed an accelerated energy management strategy NAF-DQL+PR based on deep Q learning and realized it by TensorFlow
- Verified the proposed strategy by software simulation and hardware-in-the-loop simulation

National Engineering Laboratory for Electric Vehicles, Beijing Institute of Technology

Core researcher

Project: Research on Optimization of hyper parameter in Deep Q Learning

Advisor: Yuan Zou

March 2020 – April 2020

- Optimized the hyper parameter of NAF-DQL+PR by genetic algorithm and realized it by python
- Verified the proposed strategy by software simulation

National Engineering Laboratory for Electric Vehicles, Beijing Institute of Technology

Core researcher

Project: Monitoring and Regulation Interface Development of Hybrid Power Source

Advisor: Yuan Zou

September 2019 – October 2019

- Established vehicle CAN protocol and improved system architecture
- Achieved real-time monitoring and adjustment interface of the power source based on LabVIEW
- Achieved pressure test of the interface by hardware-in-the-loop simulation

National Engineering Laboratory for Electric Vehicles, Beijing Institute of Technology

Core researcher

Project: Development of a Double Mass Vibration Didactical Experimental Platform

Advisor: Yuan Zou

June 2018 – December 2018

- Completed parameter matching and selection of electrical components according to the syllabus
- Established vehicle CAN protocol of platform
- Realize real-time parameter adjustment and operation status display of the platform based on LabVIEW
- Accomplished verification of the platform by based on the requirements of the course

National Undergraduate IOT Design Contest

Team leader

Project: Research on a Smart Lock

Advisor: Gong Jianwei

March 2016 – May 2016

- Designed the mechanical and electrical structure of a smart lock within the dormitory to form a system

- solution for identifying, monitoring and remote control
- Completed the processing of smart lock by designing its program interface based on Python

National Undergraduate Training Program for Innovation and Entrepreneurship

Team leader

Project: Research on Gesture Manipulated Remote Unmanned Vehicle

Advisor: Gong Jianwei

June 2014 – June 2015

- Developed a gesture acquisition and recognition algorithm based on leap motion
- Realized the remote control of unmanned vehicle based on formulated gestures

PUBLICATIONS

Journal:

- [1] **R Zou**, L Fan, Y Dong, S Zheng, C Hu. DQL Energy Management: An Online-Updated Algorithm and Its Application in Fix-Line Hybrid Electric Vehicle[J]. Energy, 2021, 225: 120174.
- [2] L Fan, Y Zhang, H Dou, **R Zou**. Design of An Integrated Energy Management Strategy for A Plug-In Hybrid Electric Bus[J]. Journal of Power Sources, 2020, 448: 227391.
- [3] C Hu, C Yang, X Shi, **R Zou**, L Liu, H Chen. Investigation of Rotating Stall in Radial Vaneless Diffusers with Asymmetric Inflow[J]. Aerospace Science and Technology, volume 96, 2020, 105546.
- [4] J Wu, Y Zou, X Zhang, G Du, G Du, **R Zou**. A hierarchical energy management for hybrid electric tracked vehicle considering velocity planning with pseudospectral method[J]. IEEE Transactions on Transportation Electrification, 2020, 6(2): 703-716.
- [5] F Jiao, Y Zou, X Zhang, **R Zou**. Multi-objective optimal energy management of microgrids including plug-in electric vehicles with the vehicle to grid capability for energy resources scheduling[J]. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2020: 0957650920942998.

Conference:

- [6] **R Zou**, Y Zou, Y Dong, L Fan. A Self-Adaptive Energy Management Strategy for Plug-in Hybrid Electric Vehicle Based on Deep Q Learning[C]. 4th International Conference on Artificial Intelligence, Automation and Control Technologies, Hangzhou, 2020.
- [7] X Cui, **R Zou**, M Gu, Y Zou. Urban Subway Vehicle Dynamic Modelling and Simulation[C]. 2019 International Conference on Cloud Technology and Communication Engineering, Wuhan, 2019.

INTERNSHIPS

Guangxi Yuchai Machinery Co., Ltd.

Yulin, China

Machinery Department Intern

August 2016 – September 2016

- Received requisite security training before stepping into the formal internship
- Visited the engine factory and observed the production line and the procedure

Beijing Hangtianpulin Technology Co., Ltd.

Beijing, China

Tooling Designer Intern

August 2015 – September 2015

- Learned the production and processing process of different components and parts of machines
- Designed a component inspection tooling based on AutoCAD according to the requirements

HONORS & AWARDS

- Second Prize Academic Scholarship in September 2018
- First Prize Academic Scholarship in September 2017
- Second Prize in the 3rd National Undergraduate IOT Design Contest in May 2016
- Third Prize Academic Scholarship in September 2014

SKILLS & OTHER INFORMATION

Computer Skills: MS Office (Word, Excel, PowerPoint, Access); MATLAB (Simulink), LabVIEW, Python, C, DSPACE, AutoCAD, LaTeX, Blender

Language Skills: Native Chinese Proficiency; Fluent in English; Scored 104 on TOEFL (Listening 25, Reading 30, Writing 25, Speaking 24) & 320 on GRE (Verbal 150, Quantitative 170, AWA 3.5)

Interests: Powerlifting; Reading; Hiking