

# YANG PENGXIN

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## 🎓 EDUCATION

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**Northeastern University**, Shengyang, China 2019 – 2022

*Master student* in Control Science and Engineering(State Key Laboratory of Synthetical Automation for Process Industries) *Average score:83.38/100*

**Yanshan University**, Qinhuangdao, China 2015 – 2019

*B.S. in Automation*(school of Electrical Engineering) *Average score:81.46/100*

## ⚙️ SKILLS

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- Programming Languages: C++, Matlab, Java Script
- Certificate: CET-4(521), CET-6(485), NCRE-2(C language)

## 👥 PROJECT

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### **National Natural Science Foundation Project of China“Dynamic train group scheduling under complex high-speed railway network”.**

I am the main developer to develop the train scheduling operation simulation system in C++ and responsible for the following:

- Designed the interaction interface based on TCP/IP protocol, completed real-time interaction between the scheduling algorithm and the simulation system, including train timetable delivery and road network status feedback, which makes the system can be the environment of reinforcement learning to train the agent.
- Optimized the train operation model by fitting it with actual data, and integrated the data-driven train traction/braking model into the simulation system.
- Analyzed the characteristics of the late distribution based on the actual train late data, designed a disturbance generator into the system, and evaluated the robustness of scheduling strategies(such as MILP-CPLEX, FCFS) through a large number of simulation cases

## 📖 PUBLICATIONS

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1. **Yang P**, Cui D, Dai X, et al, “A joint scheduling and train operation simulator for rescheduled timetable evaluation”,*Computer Integrated Manufacturing System*, 2022 **EI Journal**

2. **Yang P**, Cui D, Dai X, et al. “A Parallel Intelligent System for Optimizing High-Speed Railway Rescheduling by Learning”, *2021 IEEE 1st International Conference on Digital Twins and Parallel Intelligence (DTPI)*, 2021, pp. 328-331 **EI Conference**

3. Cui D, **Yang P**, Dai X,et al.“Interactive high-speed railway train operation simulation system”, 2021, *China Invention Patent*, Application Number:202110885252.7 **Invention Patent**

4. X. Wang, D. Cui, R. Liu, P. **Yang, P**, P. Yue, X.Dai.“Low-Cost Evaluation Based on Surrogate Model for Multidispatching Sections of High-Speed Railway Scheduling”.*China Automation Congress(CAC)*,2021, **EI Conference**

5. **Yang P**, Cui D, Dai X,et al. “Research on Interactive Simulation Platform of Intelligent Train Dispatching and Operation”.*The Chinese Process Control Conference(CPCC)*,2020, **Conference**

## ♡ HONORS AWARDS

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Scholarship for five semesters of undergraduate and two years of master

Three good students of Yanshan University during 2017-2018

Third prize in the 2017 OI China Underwater Robotics Competition

Third Prize of the National University Mathematics Competition in Hebei Province