

# Ding Yang

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## Education

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### Tsinghua University

08/2019 – Present

B.E. Automation

Beijing, China

- **GPA:** Overall - 3.6/4.0
- **Coursework:** Digital Electronics, Analog Electronics, C++ Programming, Signal and System Analysis, Automatic Control, Artificial Intelligence, Operating Systems, Data Structure, Computer Networks

## Research Experience

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### Multi-UAV Collaborative Scene Reconstruction

09/2022 – Present

Tsinghua University

Beijing, China

- Constructed a communication system between mainframe and drones based on ROS, and employed RACER algorithm to improve the efficiency and accuracy of multi-drone path planning

### Throughput and Bitrate Analysis in Cloud Gaming

12/2021 – 02/2022

North Carolina State University

Raleigh, NC, United States (Remote)

- Analyzed network connection bottleneck of different cloud gaming platforms based on three months of data collected by DECAF, including Google Stadia, Amazon Luna, NVIDIA GeForceNow
- Used visualization tools to identify key factors that affect networking performance, and put forward several possible solutions to improve throughput and bitrate of cloud gaming platforms

### Bin Packing with Reinforcement Learning

09/2021 – 02/2022

Tsinghua University

Beijing, China

- Tested and found better space utilization strategies for robotic arms to perform bin packing using reinforcement learning algorithm
- Developed a simulation environment in Python, which provides the interface for researchers to test various packing strategies. Now open sourced in GitHub: <https://github.com/yang-d19/Packing-3D-RL>

## Internship Experience

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### Risk Platform, Airwallex

06/2022 – 09/2022

Software Engineer Intern

Shanghai, China

- Assessed transaction risks by building machine learning platform and robust data pipelines
- Developed a python library named Vivqu based on Apache Spark to provide metric verification, visualization, defect analysis for big data. Vivqu is a powerful tool for data scientists and supports being invoked by machine learning workflows like Kubeflow. Available through PyPI: <https://pypi.org/project/vivqu/>

### Audio & Video Group, ByteDance

08/2021 – 08/2021

Summer Camp Intern

Beijing, China

- Constructed an Operator-Performance dictionary by analyzing operators in different neural network models
- The work helped model-design engineers effectively bypass those complicated and time-consuming neural network models without running exhaustive tests and thus greatly reduced testing time

## Extracurricular Activities

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### Member of Student Science and Technology Association

02/2020 – 07/2021

Department of Automation, Tsinghua University

Beijing, China

- Organized several science and technology competitions, including the 4th Artificial Intelligence Competition and the 22th Electronics Design Competition at Tsinghua University

### Lecturer in Science and Technology Camp for Primary School

07/2020 – 08/2020

Rugao Science and Technology Association

Rugao, Jiangsu, China

- Taught basic coding and computer knowledge to pupils as a volunteer lecturer

## Awards & Honors

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### Merit Scholarship for Social Work

Department of Automation, Tsinghua University

2022

### First Prize of National Olympiad in Informatics in Provinces

China Computer Federation

2017