Yihao Liu

PhD Student

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🌐 tc-imba.github.io

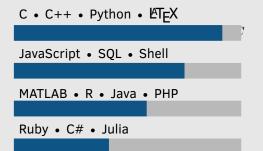✉ liuyh615@sjtu.edu.cn

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○ tc-imba

Technical Skills ———

Programming Proficiency

C • C++ • Python • LATEX

JavaScript • SQL • Shell

MATLAB • R • Java • PHP

Ruby • C# • Julia

Education ———

Bachelor of Science, Electrical and Computer Engineering (Major), Data Science (Minor)
UNIVERSITY OF MICHIGAN - SHANGHAI JIAO TONG UNIVERSITY JOINT INSTITUTE, China
2015 - 2019

Second Bachelor of Science, Applied Mathematics
SHANGHAI JIAO TONG UNIVERSITY, China
2017 - 2020

Doctor of Philosophy, Computer Science and Engineering
NANYANG TECHNOLOGY UNIVERSITY, Singapore
2020 - Present

Experience

Feb 2019 — **Contestant** — Mathematical Contest In Modeling
- Awards: Meritorious Winner in Mathematical Contest In Modeling
- Problem C: The Opioid Crisis
- GitHub Repo: `https://github.com/tc-imba/MCM2019/`

May 2018 - August 2019 — **Teaching Assistant** — UM-SJTU-JI

Responsibility: Grading, Holding labs and Designing projects.
- VE572 (Methods and Tools for Big Data)
- VE482 (Introduction to Operating Systems)
- VE281 (Data Structures and Algorithms)
- VE280 (Programming and Elementary Data Structures)
- VG101 (Introduction to Computer and Programming)

Feb 2017 — **Contestant** — Mathematical Contest In Modeling
- Awards: Honorable Mention in Mathematical Contest In Modeling
- Problem C: Cooperate and navigate
- GitHub Repo: `https://github.com/tc-imba/MCM2017/`

Research

Apr 2018 - Present — **Project Leader & Full Stack Developer** — Joint Online Judge
- Develop a online judge (or auto grader) system for various courses in the joint institute.
- Begin to lead the project since August 2018.
- Use python based web engine and back-end accelerated with Cython.
- GitHub Repo: `https://github.com/joint-online-judge`

Sep 2018 - Dec 2018 — **Research Assistant**
- Solve shortest path problem and its extension problems with reinforcement learning algorithms and compare it with traditional (eg. Dijkstra) algorithms.
- GitHub Repo: `https://github.com/tc-imba/q-learning-shortest-path-with-relay`

Feb 2017 - Feb 2018 — **Project Leader** — UM-SJTU-JI
- IPP (Undergraduate Innovation Practice Program): Research and Implementation of a Student Community for Modern University
- Provide the student community a platform to communicate and hold events
- Isolated front-end and code integration systems

March 2016 - March 2017 — **Project Member** — UM-SJTU-JI
- IPP (Undergraduate Innovation Practice Program): The Optical System Study and Improvement of Visual Reality
- make some optimization in optical models of visual reality devices
- relieve the players from dizziness during the experience of VR
- A test application in *Unity* is developed

Oct 2015 - Apr 2016 — **Project Member** — UM-SJTU-JI
- PRP: (Participation in Undergraduate Research Program): The Development of Teaching Assessment System
- Developed under the PHP CodeIgniter Framework
- Two subsystems: TA evaluation and TA admission