Zhenyuan Zhang | Resume

5C, 1811 Willowtree Ln, Ann Arbor – Michigan, 48105

☐ +1 (734) 882 3816 • ✉ cryscan@umich.edu

Education

University of Michigan	**Ann Arbor**
Master of Science in Computer Science	*Sep. 2021 – May 2023*

University of Michigan	**Ann Arbor**
Bachelor of Science in Computer Science, GPA 3.9 out of 4.0	*Sep. 2019 – May 2021*

Core courses: Computer Architecture, Data Structures and Algorithms, Operating Systems, Compiler Construction

University of Michigan – Shanghai Jiao Tong University Joint Institute	**Shanghai**
Bachelor of Science in Electronic and Computer Engineering, GPA 3.6 out of 4.0	*Sep. 2017 – Aug. 2021*

Core courses: Engineering Probabilistic Methods, Differential Equations, Linear Algebra, Discrete Mathmetics

Experience And Activities

Procedural Animation Project

Leader — *Jan. 2021 – present*

A research project seeks to introduce methods of motion synthesis in robotics into animation systems
- Wrote an interface to the trajectory optimization library `towr` in C++
- Generated a trajectory database for motion matching
- Applied to real-time applications like games

Undergraduate Game Development

Designer and Programmer — *October 2020 – Dec. 2020*

A course project for University of Michigan's game developing course
- Designed core mechanism focused on planning and executing
- Designed the code architecture
- Implemented enemy AI with complex but reasonable behavior using `Goal Oriented Action Planning`
- Tried to do narrative generation using planning algorithms

Research in ARM Lab on Trap Aware Model Predictive Control

Research Assistant — *May 2020 – present*

An online model-based controller for escaping traps in novel environments
- Implemented baseline based on `Guided Policy Search`
- Implemented baseline based on `Soft Actor-Critic`

Undergraduate Research Program

Student — *Nov. 2018 – Apr. 2019*

Evaluation of Algorithms for Deep Reinforcement Learning
- Set up an unified environment that integrates different algorithms and scenarios
- Implemented reinforcement learning algorithms including PPO and DDPG in `TensorFlow`
- Implemented a benchmarking procedure for algorithm evaluating

Skills

Programming Languages:
- `C++`: Have good coding style; Have experience in multiple projects
- `Rust`: Understand ownership, lifetime and type traits; Have experience in projects
- `Python`: Be able to implement machine learning algorithms and train agents

Game Engines: `Unity (C#)`, `Amethyst (Rust)`

Others: `Blender` for 3D modeling and animating