

Zhenyuan Zhang | Resume

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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 Mathematics

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 `torc` 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 traits; Have project experience
- **Python:** Be able to implement machine learning algorithms and train agents

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

Others: Git, Jira, Blender