

Zhenyuan Zhang | Resume

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Education

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

- Re-implemented Contact Invariant Optimization in a Python framework
- Generated a trajectory database for motion matching
- Applied to real-time applications like games

Undergraduate Game Design Project

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

WolverineSoft Studio Game Project

Unity Programmer

June. 2020 – August. 2020

A 3D first-person stealth horror game where the player must traverse through a castle avoiding horrible monsters

- Worked over the course of one semester with a team of 30 developers
- Created enemy animations using trajectory optimization
- Implemented an easy-to-use interacting system
- Implemented dialogue system for narrative purpose

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

Computer 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: Can implement machine learning algorithms and train agents

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