Chuyue Zhang

Computer Engineer

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github.com/IronDumpling

Reference

Ian Kuon
Team Manager @ Intel Corp.
My team manager at Intel Corp. during my CO-OP internship.
Email: ian.kuon@intel.com

Chi-Guhn Lee
Professor @ University of Toronto
My supervisor at C-MORE Lab during my summer research internship in robotics.
Email: cglee@mie.utoronto.ca

Steve Engles
Professor @ University of Toronto
The co-supervisor of my capstone project at UofT.
Email: sengels@cs.toronto.edu

Projects

7/2023 - Present

Wave Optics Education Website (ece496-game-project.github.io)

Environment: Unity WebGL & Visual Studio & IntelliJ IDEA & Git

Description: Simulated interactive and editable scenes generated through physical algorithms, facilitating students' comprehension of wave optics.

Responsibility: Construct an MVC framework to facilitate real-time interaction between web frontend and Unity scenes.

5/2023 - 8/2023

Over-clock Survivor (github.com/IronDumpling/over-clock-survivor-3d)

Environment: Unity & Visual Studio & Git

Description: A 45 degree 3D survival game inspired by "Vampire Survivor" and "Backpack Heroes".

Responsibility: Basic functionalities of player and enemies. Inventory tetris backpack system. Use raycasting and graph theory to design weapon triggering algorithm. Bullet BUFF system. Bullet pathfinding system. Dynamically control enemy difficulty. Craft enemy AI using state machines.

11/2022 - 6/2023

Backtrack (github.com/FinalProject-Team1-Backtrack/mainProject)

Environment: Unity & Visual Studio & Git

Description: A fixed-angle 3D level-based parkour game.

Responsibility: Create camera control scripts using Cinemachine and Dotween. Design UI framework and scripts for managing player data. Craft animation state machines and control scripts for UI, characters, and sceneries.

1/2021 - 5/2021

Easy Go Map

Environment: Linux & CLion & Git

Description: An offline GIS software, presenting global urban map data with navigation function.

Responsibility: Build city maps with from scratch. Develop a navigator with A* algorithm which provides driving instructions. Apply greedy algorithms, simulated annealing, and multi-threading to tackle the NP-hard Traveling Salesman Problem, achieving top 15% in the class.

Work Experiences

5/2023 - 8/2023

Research Intern @ C-MORE Lab

Environment: PyCharm & Google CoLab & Gazebo & ROS2 & Ubuntu & Git

Responsibility: Research multi-robot exploration tasks in unknown areas using reinforcement learning and Bayesian optimization, determining the optimal robot configuration. Testing model effectiveness using physical simulation software like Gazebo.

5/2022 - 6/2023

Software Engineer @ Intel Corp.

Environment: VS Code & Heidi SQL & Perforce

Responsibility: Responsible for developing a website and tools for analyzing and comparing chip data models and actual chip data using Python. Utilizing tools such as Pandas and PostgreSQL for database processing.

Education

2019, 9 - 2024, 5 - Toronto, ON, Canada

University of Toronto
Bachelor of Applied Science and Engineering In Computer Engineering

CGPA (2019 - 2023): **3.75** / 4.0; **AGPA** (2020 - 2021): **3.91** / 4.0

Dean's Honour List: 4 semesters

Skills

Programming

C/C++	Familiar with software & OS programming
C#	Familiar with game and algorithm programming
Python	Familiar with data processing and machine learning
HTML & CSS & JavaScript	Familiar with web frontend programming

Knowledge

Data Structure & Algorithm	Score: 91/100 A+
Computer Graphics	Score: 94/100 A+
Computer Network	Score: 87/100 A
Game Engine	Familiar with usage of Unity
Operating System	Familiar with concurrency, virtualisation and file system
Version Control	Familiar with Git & Perforce