Nhan Tran

tranhqnhan@gmail.com | 563 549 2363
https://github.com/tranqnhan

Objective

I am a hard worker who is looking for interesting problems to solve.

Education

Iowa State University

Master of Science
| Computer Science
December 2025
GPA: 3.81 / 4.00

Skills

Languages

C/C++ • Java • Python • SQL • JavaScript

Softwares and Libraries

VS Code • Android Studio • Github • Git • Emscripten • WASM • Pytorch

Awards

Iowa Governor Scholar

Awarded to the two highest academically performing seniors
Received in 2020

Hawkeye Programming Challenge 2nd Place

Programming competition hosted by University of Iowa
Received in 2019

Certifications

Pearson Credly

Java IT Specialist
Python IT Specialist
Software Development IT Specialist

Experience

Principal Financial

Software Developer Intern
June 2022 – August 2023

- Worked in an Agile environment among a team of software engineers.
- Java and Spring Boot for testing and development of website.
- Python and SQL to process and visualize financial data.

Promax Unlimited

Software Developer Intern
January 2020 – June 2020

- Worked in a team to develop an authentication system for company's app using JavaScript and React Native.

Projects

Quadtree A*

Demo: https://tranqnhan.github.io/QuadtreeAstar
Problem: A* path planning on large grids is slow. In addition, for different sized objects, different grid sizes need to be generated.
Solution: Implemented Quadtree algorithm with constant time neighbor finding to subdivide space and generate graph for A* path planning. Used C++, Raylib, Emscripten, WASM.

Procedural Generation Tile Constraints

Demo: https://proceduralgenerationtileconstraints.pages.dev/
Problem: Generating large textures, images from samples with locally self-similar structures.
Solution: Implementation of Model Synthesis / WFC on a 2D grid for procedurally generating textures and images from example. Used C++, Raylib, Emscripten, WASM, Multithreading.

ACO Multiprocessing Task Scheduler

Implemented Ant Colony Optimization algorithm for task scheduling in heterogeneous multiprocessing environment using C. Developed a user interface to visualize the process assignments and the algorithm using a C graphics library called Raylib.

Iterated Dijkstra Propagation for Path Planning

Implemented Iterated Dijkstra Propagation for multiobjective path planning. Implemented a multicost resource pool architecture to manage memory efficiently. Developed an edge retrieval optimization that speed up the algorithm by seven percent. Developed using C++ and tested on the Husarion 2R robot with ROS platform.