

RAMSEY DAOU

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TECHNICAL SKILLS

- Programming Languages: C, C++, C#, Python
- Software Development Tools: Azure DevOps, Git, Perforce, Unity

WORK EXPERIENCE

SOFTWARE ENGINEER, R&D

Sept 2019 – Present

National Instruments, Austin, TX

- Extended functionality of 15-year-old 2 million-line C++ codebase in an Agile environment, focusing on maintaining customer compatibility and improving code quality.
- Reduced code ambiguity and obfuscation by refactoring and reworking legacy code based on clean code principles, aiming for better code readability, reusability, and ease of testing.
- Increased test coverage and minimized bugs by developing 120+ unit and system-level tests using Google Test infrastructure.
- Spearheaded feature research on over 200 firmware properties, finding and fixing bugs with 40% of them that affected both new and legacy code paths.

TEACHING ASSISTANT, 'COMPUTING FOR ENGINEERS'

Aug 2017 – May 2018

University of Houston, Main Campus

- Worked with professors to create an Arduino-based 'Simon Says' game using MATLAB to introduce freshman students to key concepts of electrical engineering.

EDUCATION

The University of Houston

May 2019

Bachelor of Science Degree in Computer Engineering

GPA: 3.9

Relevant Courses: Data Structures, Advanced Microprocessors, Intro to Machine Learning

PROJECTS

For images, source code, and more information on my projects, visit: <https://ramseydaou.github.io/>

Unity Coding Projects

- *Flocking Simulation*: Programmed objects to move together based on bird/fish flocking behaviors.
- *Procedurally Generated World*: Implemented Perlin Noise Algorithm to create a grid world generation tool with realistic topography (hills, shores, rivers).
- *Vision and Navigation*: Utilized Dijkstra's algorithm for pathfinding and developed an algorithm to calculate field of vision in grid world.

Mobile Robotic Videographer

- Collaborated with 3 peers to design a prototype wheeled robot capable of tracking and filming a runner safely at speeds up to 15 miles per hour for 60+ minutes as part of a \$600,000 research grant.
- Implemented machine learning to detect a runner within the video frame and estimate their distance.
- Designed a control system to track the runner and navigate through GPS waypoints using Python.

NASA Community College Aerospace Scholars

- Cooperated with 10 scholars to build a model rover, taking role of Lead Software Engineer.
- Presented and pitched rover design to 6 NASA employees, focusing on flexible and reliable design.