Riverside, CA
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Diane Ngo
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Education & Classes:

Upcoming Senior at University of California, Riverside - Riverside, CA
B.S in Computer Science, Expected 06/2021
CS - Computer Graphics, Virtual Reality, Data Structures and Algorithms, AI, Machine Learning, Compilers
Math - Multivariable Calculus, Discrete Math and Structures, Linear Algebra (with and without MATLAB)
Upcoming - Probability and Statistics, Networking, GPU Programming

Skills:

Proficient - C, C++, C#,, Git, Python, Unity, Teaching
Familiar - Unreal Engine, Shaders, Java, HTML, CSS, Javascript, Keras, MATLAB

Projects:

Ocean's Demise - (Unity 2D Horror RPG, C#), *October 2018 - July 2020*
- Coordinated 6 programmers using git and multiple branches to increase efficiency and reduce conflicts
- Created a cutscene system in Unity with custom Timeline scripts
- Implemented shaders and sound into a unified story experience using the cutscene system

Ray Tracer/Rasterizer - (Computer Graphics Projects, C/C++), *January 2020 - March 2020*
- Coded programs to transform vertex and color data into projections of 3D models
- Implemented Phong shading model as lighting for ray tracer
- Created rasterizer with perspective-correct color interpolation and clipping

Brain Game Center - Recollect (Unity Psychology Research Memory Game, C#), *March 2018 - June 2019*
- Created achievement system to track and display study participant progress per level and per study session
- Designed framework to create goals for participants, storing and loading in JSON
- Used with git to collaborate with researchers and other research assistants

Voice Activated Platformer - (Embedded Systems on Atmega 1284, C), *November - December 2018*
- Created concurrent synchronized state machines to handle game states and an endlessly generated level
- Read microphone input using ADC and displayed to a Nokia LCD using serial output

Echo in the Mirror (Unity 2D action RPG, C#), *October 2017- June 2018*
- Lead a team of artists and musicians to create a video game
- Programmed the gameplay and dialogue systems utilizing coroutines and design patterns

VEX Robotics Programming (Embedded Systems on VEX Cortex, C), *September 2014- June 2017*
- Coded robots to compete in games, including both autonomous and user-controlled functions
- Gained practical experience in programming sensors and motors using PID control

Leadership & Experience:

President and Event Coordinator for Gamespawn, UCR's video game development organization, *2018-2020*
- Organized video game projects, meetings, socials, and game jams for a club of 50+ members
- Organized the Global Game Jam site at UCR, a game jam with 70+ attendees planned for several months

200+ hours community service, *2014-2020*
- Volunteered at HOPE, Social Ministries Office in the Santa Clara County

Robotics TA for Bellarmine Robotics Summer Camp, *July 2014- August 2017*
- Taught classes of 20-30 middle school and incoming high school students in robotics engineering problems

Captain of VEX Team 254D, *June 2014- June 2017*
- Lead and introduced teams of 8 into robotics design and programming