Juan Becerra – Software Developer

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TECHNICAL SKILLS AND TOOLS

- **Desktop Development:** .NET (C++, C#), JavaFX (Java), PyQT (Python)
- **Web and Mobile Development:** HTML/CSS, JavaScript, PHP, NodeJS, React Native, Android Studio (Java, Kotlin)
- **Computer Graphics and Realtime Rendering:** OpenGL/WebGL (GLSL), Direct3D 11 (HLSL), Vulkan (HLSL), Unity (ShaderLab, URP), Unreal Engine (Node-based shaders)
- **Gameplay and Engine Programming:** Unity (C#), Unreal Engine (Blueprints, C++), Engine Development (C++, OpenGL, GLSL)
- **API and Database Development:** ASP.NET, REST (Express.js), MySQL, SQL Server, Firebase, AWS, Google Cloud

WORK EXPERIENCE

Lionbridge
Senior Games Test Engineer   **Aug 2020 - Present**

- Worked as a QA tester at Lionbridge, an outsourced functional and localization testing firm for video games
- Created well-documented bug reports through a combination of combinatorial, tree, regression, and ad hoc testing methodologies
- Provided additional insight on existing bug reports using previous knowledge of engine and gameplay programming

OutboxEDU
Unity Program Intern   **July 2020 – Sep 2020**

- Interned as a Unity/C# developer working on Skoolly, an interactive platform where students (2-8) can complete coursework and learn new languages
- Developed Tetris-like game with multilingual voice support and kid-friendly mechanics
- Worked with small team of artists, designers, and programmers to integrate product into the Skoolly platform

TurnUp Activism
Lead Software Engineer Intern   **May 2020 – July 2020**

- Interned as a team lead for the development of TurnUp, a web/mobile app for youth activism organization and networking
- Developed cross-platform API for application features in React Native and Express.js
- Handled pull requests, code reviews, and unit testing for intern team's feature implementations

Boise State University - Department of Computer Science
Undergraduate Research Assistant   **Jan 2020 – May 2020**

- Developed distributed content production pipeline intended for Boise State University's "World Museum" project
- Researched and implemented computer imaging processing and compression algorithms to develop web-based digital asset management software
- Designed and implemented database schemas for asset tagging system

Boise State University - Department of Computer Science
Computer Science Learning Assistant   **Sep 2019 – July 2020**

- Assisted in courses on object-oriented design principals, test driven development, and elementary data structures
- Held tutoring sessions to assist students in designing and debugging Java programming projects
- Refactored auto-grading system for new online summer curriculum

EDUCATION

Boise State University
Bachelor of Science in Computer Science (In-Progress)   **Aug 2017 - May 2021**

- Currently maintaining 3.6 and 3.7 major and cumulative GPAs respectively
- Primarily focused of software engineering, particularly in topics related to desktop application development, web/mobile development, gameplay and engine programming, computer graphics, and artificial intelligence
- Completed course topics include:
  - Data Structures and Algorithms
  - Version Control and Agile Development
  - Computer Graphics (Graduate)
  - Artificial Intelligence (Graduate)
  - Parallel Computing (Graduate)
  - 2D/3D Game Development
  - Game Engine Architecture
  - Web and Mobile Development
  - Linear Algebra and Engineering Statistics

PROGRAMMING PROJECTS

Here are some of my noteworthy personal, school, and work programming projects. More projects can be found on my portfolio website (https://juanbecerra0.github.io/#portfolio) or my personal GitHub (https://github.com/juanbecerra0).

Hoowan
Personal Game Engine Project

- Game engine and editor tool with several implemented features, such as a real-time 2D renderer, an entity-component system, collision detection and correction, native scripting, and profiling tools
- Developed in C++ and OpenGL, along with several C++ libraries and a build-automation system
- GitHub Repo: https://github.com/juanbecerra0/Hoowan

Chasmwatch
3rd Person Action Role-Playing Game

- A 3D Zelda-like game with several implemented features, including sword and bow combat, dialogue authoring, enemy behavior, inventory system, and a tree-structured asset loading system
- Developed in Unity using C#, ShaderLab, and several asset packs (almost all art assets)
- GitLab Repo: https://gitlab.com/becerrajuan007/chasmwatch

Procedural Terrain Generator
Computer Graphics Research Project

- Final research project for advanced computer graphics course, which utilizes several procedural terrain generation techniques
- Developed in Unity using C#, ShaderLab, and a few asset packs (prefab models)
- GitHub Repo: https://github.com/juanbecerra0/Volcanic-Terrain-Generator

Fractal Image Generator
Advanced C++ Final Project

- Generates a Mandelbrot set image given a set of constraints, including color sampling, resolution, and zoom level
- Developed in C++ as a part of a Udemy course that teaches several modern C++ concepts
- GitHub Repo: https://github.com/juanbecerra0/FractalImageGenerator

Wheel Spinner
Random Selector Mobile App

- Android app that allows users to create 'wheels' with several objects, which can be 'spun' for a random result
- Developed using Android Studio using Java and OpenGL
- GitHub Repo: https://github.com/juanbecerra0/Chon