Anthony B. Bartholomew

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SKILLS

Languages	Game Engines	Rendering APIs	Development Tools	Frameworks
C/C++, C#, Lua, Python, JavaScript, Java	Unreal Engine 5, Unity	OpenGL, GLSL	Perforce, GitHub, BitBucket, Jira, Confluence, Rider, Visual Studio	Spring, Kafka, Cassandra, Node.js, Splunk

PROFESSIONAL EXPERIENCE

Associate Game Programmer
Jan. 2024 - Present

Heavy Iron Studios, Manhattan Beach, CA

Incorporated gameplay mechanics into a vehicle-based Virtual Reality (VR) project using Unreal Engine 5, positioning it as a technical demonstration for potential game development clients.

- Developed core VR player functionality to enable interaction with virtual vehicle controls and 3D user interface elements.
- Reported asset-related problems to the art team to resolve visual fidelity and animation issues found during development.
- Collaborated with the design team to gather requirements and create development road maps for new gameplay features.

Gameplay Programmer Intern | Rocket Racing
May - Aug. 2023

Psyonix, San Diego, CA

Worked on the game client team to develop and design player-facing gameplay mechanics for Psyonix's upcoming title, using both Blueprints and C++ in Unreal Engine 5.

- Developed skilled AI utilizing behavior trees to compete against novice players, delivering an immersive experience.
- Improved the player's driving mechanics by implementing new features for the vehicle's physics-based abilities.
- Exposed game assets to user-generated content tools for the Unreal Editor for Fortnite.
- Participated in playtesting sessions to provide feedback and identify bugs in gameplay mechanics.

Full Stack Developer
Feb. 2020 - Apr. 2022

JPMorgan Chase & Co., Columbus, OH

Focused on implementing front-end and back-end solutions for the Community & Consumer Banking sector, enabling over 230,000 businesses to apply for payroll loans through the Paycheck Protection Program.

- Utilized Spring and Apache Kafka to implement distributed, event-driven microservices.
- Developed secure REST controllers that allowed web service calls to safely communicate with back-end servers.
- Led back-end production deployments for new business requirements, framework version upgrades, and security updates.

Embedded Firmware Co-op
Aug. - Dec. 2017, May - Aug. 2018

General Electric Appliances, Louisville, KY

Developed firmware for the refrigeration and air conditioning product lines at one of the industry's leading manufacturers of electronic appliances for homes and businesses.

- Utilized Test-Driven Development practices to ensure high-quality, maintainable, and reliable code.
- Designed control algorithms for auger motors, cooling fans, and user interface LEDs in open and closed-loop configurations.
- Leveraged appliance testing benches to validate firmware changes before merging into the production code base.

GAME PROJECTS

Lead Engine/Gameplay Programmer | Dodge Brawl | Team of 7
Apr. 2023

2D local multiplayer competitive dodgeball game built with a custom C++ engine, where players battle to be the last person standing.

- Implemented component-based architecture allowing team members to develop engine and custom components.
- Designed a rendering pipeline that gives the ability to define custom materials for objects within the scene.
- Developed multiple controller input processing and windowing system using GLFW.
- Created a physics engine that uses Runge-Kutta integration and 2D collision detection with impulse responses.

EDUCATION

M. S. in Computer Science
Expected Apr. 2024

DigiPen Institute of Technology, Redmond, WA

B. S. in Computer Science and Engineering
Dec. 2019

The Ohio State University, Columbus, OH