OSTAP DZYOBA

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JOB OBJECTIVE

An innovative development position where I can use and improve my technical and collaborative skills in systems programming.

QUALIFICATION HIGHLIGHTS

- Created a mobile app backend API with MySQL and AWS
- Created a scalable graphics API for DirectX from scratch
- Successfully programmed and optimized C++ game engine and game programming projects with 150+ files
- Demonstrated capacity to handle responsibilities under time pressure in both team and independent work environments

EDUCATION

DePaul University (Chicago, IL) - *9/2020 to Present*
- **BA, Computer Science; Concentration in Game Systems**

WORK EXPERIENCE

Art Rendez-Vous (New York, NY) – IT Intern (Python, MySQL, PHP)

06/2024 – 08/2024
- Created a backend artwork management API for the ARV mobile app on AWS
- Used MySQL and PHP to program database CRUD methods on a Linux machine
- Collaborated on a data uploading system in Python with international coworkers

RELATED DEVELOPMENT EXPERIENCE

Multithreaded Programming (C++):
- Created an audio player for loading, queueing, and playing audio files in parallel using multiple threads
- Improved a single-threaded maze solver to double the speed using multiple threads
- Used condition variables, futures, promises, and atomic variables to optimize data access between threads

Game Engine Programming (C++):
- Developed a medium-scale 3D game engine using an OpenGL-based graphics engine
- Created a scene manager to save, load, clean up, and switch between scenes efficiently

- Created a centralized game object system to handle real-time collision testing, alarms, key input, updating, rendering, and scene registration
- Built asset managers to simplify model, shader, texture, and font loading
- Programmed debug tools like freeze frame and a visualizer to recognize errors faster
- Developed a sprite system to efficiently render 2D text and HUD elements

Graphics Programming (C++/DirectX):

- Created a graphics API from scratch to simplify working with the DirectX 11 interface
- Developed a graphics object system to streamline binding shaders, models, textures, and shader data into one object
- Created a Phong lighting system to support directional, point, and spot lights
- Programmed a configurable terrain model to generate custom terrain using heightmap images
- Implemented structure packing in model vertex data to optimize memory alignment

Game Programming (C++):

- Created a functioning version of *Centipede* game with minimal engine resources under a 10-week development cycle
- Used design patterns to optimize code efficiency and AI movement
- Developed a sound system to reuse objects for efficient sound implementation
- Implemented a resource manager to handle various game resources in one file
- Created a memory system from scratch to allocate and deallocate data
- Developed a scoring system to keep track of high scores and graphically update text on screen

OTHER EXPERIENCE

Kohl's (Lake Zurich, IL) *- Sales Associate*

11/2021- PRESENT

- Worked in a team environment to ensure correct processing of online orders
- Upheld division of responsibility among team members for efficient work
- Trained new staff to optimize work while under time pressure

TECHNICAL OVERVIEW

- **Programming Languages:** C, C++, HLSL, Java
- **Frameworks and libraries:** SFML, DirectX 11, Windows API
- **IDEs:** Visual Studio and Eclipse
- **Version Control:** Perforce and GitHub
- **Platforms:** Windows