GEORGI MIRAZCHIYSKI

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PROFESSIONAL EXPERIENCE

Graduate Software Engineer

Codeplay Software Ltd.   05/2019 - Ongoing
Edinburgh, Scotland, UK

Developing demos and debugging and improving the SYCL runtime, expanding the SYCL Ecosystem and providing support to the community via various materials such as online blogs or guides. Also, working with cross-compilation toolchains for embedded hardware to optimize parallel software using SYCL (including but not limited to writing demos).

Intern Software Engineer

Codeplay Software Ltd.   06/2018 - 09/2018
Edinburgh, Scotland, UK

Worked on a computer vision demo framework for embedded hardware with C++ and SYCL. Involved investigation of the chip's memory model.

Programming Demonstrator & Lab Assistant

Edinburgh Napier University   09/2017 - 05/2018
Edinburgh, Scotland, UK

Demonstrated in various programming languages and subjects for 4 hours every week and assisted in the C/C++, Compute Graphics & Physics Animations and Web Development modules.

PERSONAL PROJECTS

Parallel NBody Simulation (C++ Threads vs SYCL)

My aim was to write and optimise sequential brute-force n-body calculation via various parallel techniques (C++ threading, OpenMP, and SYCL) The project involved investigating the use of multiple device memory addresses and techniques such as tiling.

https://github.com/GeorgeWeb/parallel-nbody

Modern OpenGL PBR Framework

A minimalistic graphics framework capable of PBS (UE4's roughness/metallic workflow). Aim was to revisit modern OpenGL.

https://github.com/GeorgeWeb/small-gfx

Modern C++ Thread-Pool Utility

A small single-header C++17 thread-pool implementation.
I built it for myself as a handy utility to use in multiple projects during my final year at university involving work on concurrency and parallelism.

https://github.com/GeorgeWeb/tpool.hpp

Turn-Based 2D Game Engine (C++/SFML/OpenGL)

Date period   Location

A 2D game engine that aimed to focus on turn-based style combat, and efficient state machines for Scene management and AI behaviour. Moreover, I have designed every game object to handle its behaviour individually via an ECS with an Entity manager to update the state for those component that are local to a certain scene, thus improving the overall performance during game play and loading times.

https://github.com/GeorgeWeb/HeroesJourney

EDUCATION

BSc (Hons) Games Development

Edinburgh Napier University
09/2015 - 05/2019
Edinburgh, Scotland, UK
· 1st Class Degree

ABOUT ME

I am recent graduate who is exploring the the latest C++ ISO and performance computing, and if I am not doing this I am enjoying the beautiful sights of Edinburgh. I am currently involved with parallel programming models (SYCL and OpenCL) and enjoying modern standards. I believe that my current experience lies in high-performance computing, heterogeneous systems and software architecture design, mainly within the C/C++ subset. I am also very keen on graphics and game/game engine programming as It is my passion and hobby for quite a while.

PUBLICATIONS

Performance Evaluation of Parallel Programming Models: SYCL vs OpenCL

Edinburgh Napier University

The project is a thorough investigation of the SYCL parallel programming model with a focus on performance comparison with its predecessor - OpenCL.

TOP SKILLS

Skill	Level	
C++ (11/14/17)	Proficient	▮▮▮▮▯
OpenCL and SYCL	Advanced	▮▮▮▮▯
OpenGL / GLSL	Advanced	▮▮▮▮▯
Game Engines (Unity 3D)	Intermediate	▮▮▮▯▯
CMake / Ninja / VS17	Proficient	▮▮▮▮▯
Git and SVN (preferably Git)	Proficient	▮▮▮▮▯
Web (Javascript / Node.js)	Advanced	▮▮▮▯▯