

S.R. KAISER

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EDUCATION

University of Leeds MS High-Performance Graphics and Games Engineering <i>Focus: Engine Development, Rendering, Animation/Simulation, Geometry Processing</i>	Leeds, Yorkshire Sep 2021 - Sep 2022
University of Essex BS (Hons) Computer Science <i>Focus: Software Engineering, Artificial Intelligence, Agile Team Development</i>	Colchester, Essex Sep 2018 - Jul 2021
Byron College Mathematics, Advanced Mathematics, IT	Athens, Greece Sep 2016 - Jul 2018

SKILLS

Technologies: C/C++, GLSL, C#, Java, Python, SQL
API: Vulkan, OpenGL (modern), Unity, OpenCV
Core: Version Control, JIRA, Agile/Scrum, Kanban

GRAPHICS PROJECTS

Fluid-Sim C/C++, OpenGL Adapted a SIGGRAPH research paper on smoothed particle hydrodynamics (SPH) into a 3D renderer and produced free-fall simulation of fluid particles with adjustable parameters such as mass, gravity, viscosity and internal pressure. Tested with different integration schemes and smoothing kernels. github.com/ranaxdev/Fluid-Sim
srqEngine C/C++, OpenGL Created a DOOM-Style 3D graphics rendering engine for my BS dissertation, featuring a physically-based sandbox world, BRDF lighting, particle generation and a geometry parser. github.com/ranaxdev/srqEngine
3d-conics C/C++, OpenGL Implemented a 3D surface and conics visualizer, applying concepts from multivariate calculus and differential geometry. Features mesh generation based on implicit functions and live interaction (through a GUI) with their properties. github.com/ranaxdev/3d-conics
Cloth-Sim C/C++, OpenGL Implemented a cloth simulator using the mass-spring-damper model, featuring a cloth mesh importer/exporter and a range of different physical cloth simulations such as collisions, free-fall and friction. github.com/ranaxdev/Cloth-Sim

EXPERIENCE

Fyredon <i>Game Engine Developer</i> <ul style="list-style-type: none">Collaborated with a team of six engineers to develop a game engine using C/C++ and OpenGL, featuring 3D rendering, an entity component system, animation, navigation and terrain generation.Designed the engine architecture, implemented the build system, recursive file lookup and game object serialization.Presented the engine in a conference to esteemed engineers in the industry from Rockstar Games, Apple and RedKite.	Leeds, Yorkshire Jan 2022 - Jun 2022
University of Leeds <i>School of Computing Ambassador</i> <ul style="list-style-type: none">Demonstrated high-performance graphics projects at the university open days to applicants.	Leeds, Yorkshire Jun 2022 - Present

ACHIEVEMENTS

First-class honours with distinction
University of Essex (2020)

Dean's List of Excellence
University of Essex (2019)

Big Essex Award: Bronze
Competing in the Global Game Jam (2020)