

Tristan Cox

<https://github.com/nice-sprite>

<https://nice-sprite.github.io>

EDUCATION

The University of Texas at Dallas, Dallas, TX

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Bachelor of Science, Computer Science

Relevant Coursework

Linear Algebra, Discrete Math, Operating Systems, Computer Architecture, C/C++ Programming on Linux

SKILLS

Programming Languages

C++, Rust, JavaScript, Lua, HLSL/GLSL

Graphics API

DirectX11

Tools

IDA Pro, X64Dbg, RenderDoc, PIX, Intel VTune, Tracy Profiler

PROJECTS

HUD UI Editor

- Leveraged knowledge of game subsystems to design and implement a GUI editor for UI tooling
- Implemented efficient rendering with DirectX11 for stable performance
- Reduced UI design iteration time and workflow friction by ~80%

GUI Rendering Backend

- Integrated BGFX renderer for the popular rust user interface library "egui"
- Supplied platform independent user input and windowing with the winit library
- Solved performance issues by profiling with Tracy and inspecting GPU pipeline with RenderDoc

Graphics Overlay and Extraction Tool

- Utilized static and dynamic binary analysis techniques to implement code injection and graphics
- Developed C++ DLL and code injector for a Call of Duty: Black Ops tool that extracts game asset data
- Leveraged React and AWS knowledge to display the extracted data in a searchable table format

Custom Heads-Up-Display System

- Decompiled and analyzed Lua scripts to become highly proficient with an undocumented API
- Implemented a remastered version of the Call of Duty: World at War Zombies UI using the new API
- Contributed to custom map content by guiding map makers on how to use new Lua API by example