**Tristan Cox**

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

[https://nice-sprite.github.io](https://nice-sprite.github.io/)

**EDUCATION**

**The University of Texas at Dallas**, Dallas, TX August 2024

*Bachelor of Science, Computer Science*

**Relevant Coursework**

3D Computer Graphics, Compiler Design, Computer Architecture, Linear Algebra, Discrete Math, Operating Systems, C/C++ Programming on Linux

**SKILLS**

**Programming Languages**

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

**Graphics API**

 Vulkan, DirectX11, OpenGL

**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