

## Shader Park

Live-Coding Interactive & Procedural Shaders with JavaScript

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Shader Park is an open-source JavaScript library and community for creating interactive 2D and 3D shaders. It features a live-coding environment that allows the community to share their creations. The library abstracts signed distance fields into a high-level imperative API (similar to Processing, or p5.js) making procedural modeling much more accessible and productive. The unification of procedural geometry, animation, and materials into a single program makes prototyping faster and more flexible. A major focus of the project is code literacy and artistic experimentation by making computer graphics programming accessible for artists, designers, students, educators, and all. The library also provides interactive documentation and a number of plugins for WebGL, Three.js, and TouchDesigner. In this demo we will cover the core features of Shader Park, and live-code an interactive shader with it.



Figure 1: Screen capture of Shader Park Website [Public domain]. (<https://www.shaderpark.com>)

**Additional Keywords and Phrases:** shader, ray marching, sphere tracing, signed distance fields, signed distance functions, sdf, surface modeling, constructive solid geometry, csg, javascript, creative coding, material models, PBR, live-coding, Three.js, TouchDesigner, WebXR, WebGL, GLSL, animation, interactivity, real-time graphics, demo-scene.