

## ***Physically-Based Wildfire Simulation***

ScB Computer Science Capstone Project

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### **Github Repo:**

<https://github.com/herewegoblueno/team-wildfire>

### **Abstract:**

For the final project of cs2240, we implemented a wildfire simulator using C++ and OpenGL based on the SIGGRAPH 2021 paper [\*Fire in Paradise: Mesoscale Simulation of Wildfires\*](#). Our 3D simulation software includes heat transfer, combustion, wind, flammagenitus clouds, and module-based trees that can disappear via burning. As part of a team of three, I personally implemented module combustion (including varying fire size based on burn rate), module-module and module-air heat transfer, generating the forest from branch modules, rendering the scene (except for particles), and mapping modules to the underlying voxel grid.