

SORTING ALGORITHM VISUALIZER

BY PUJA RAY (22020107001)

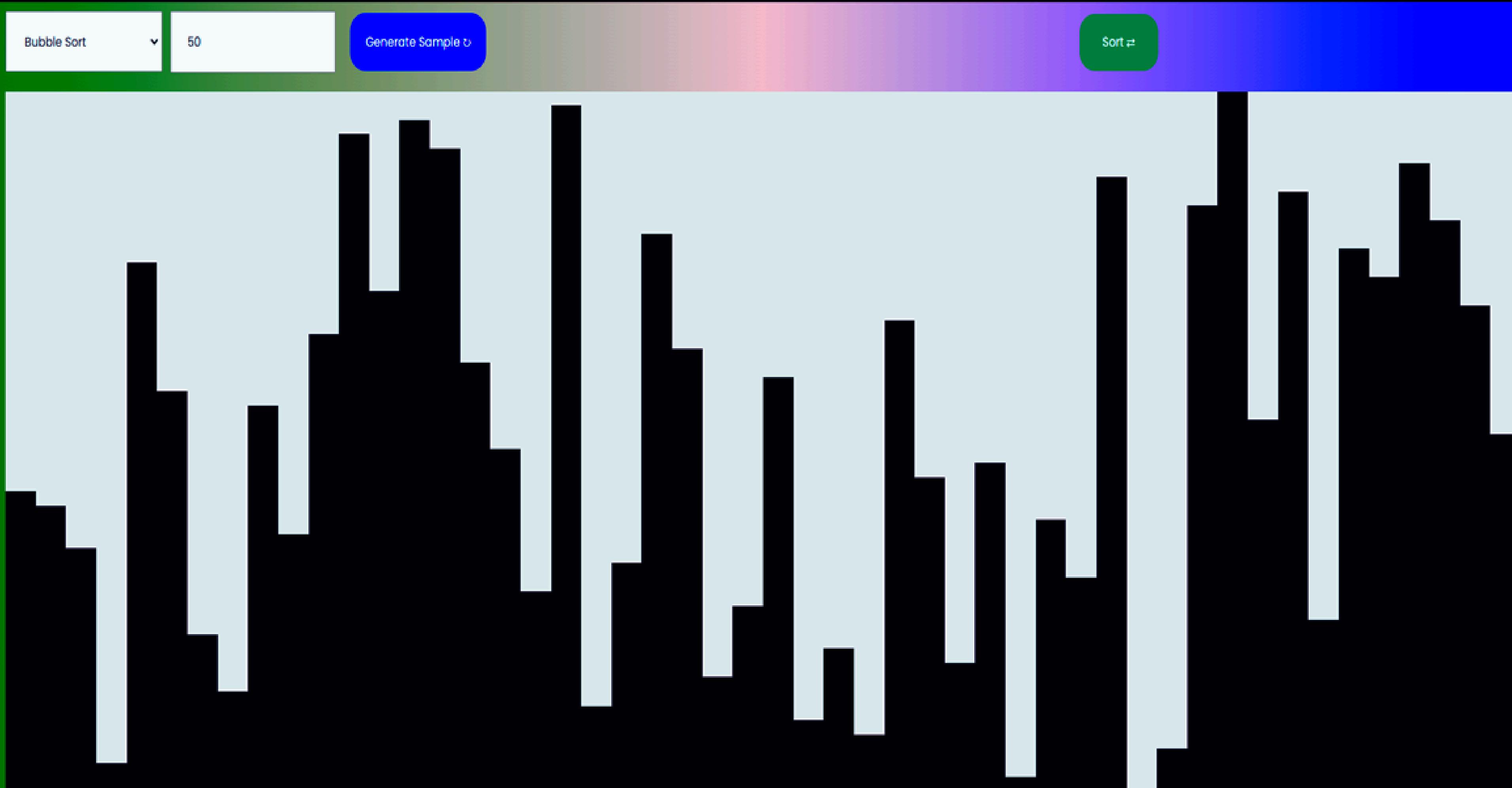


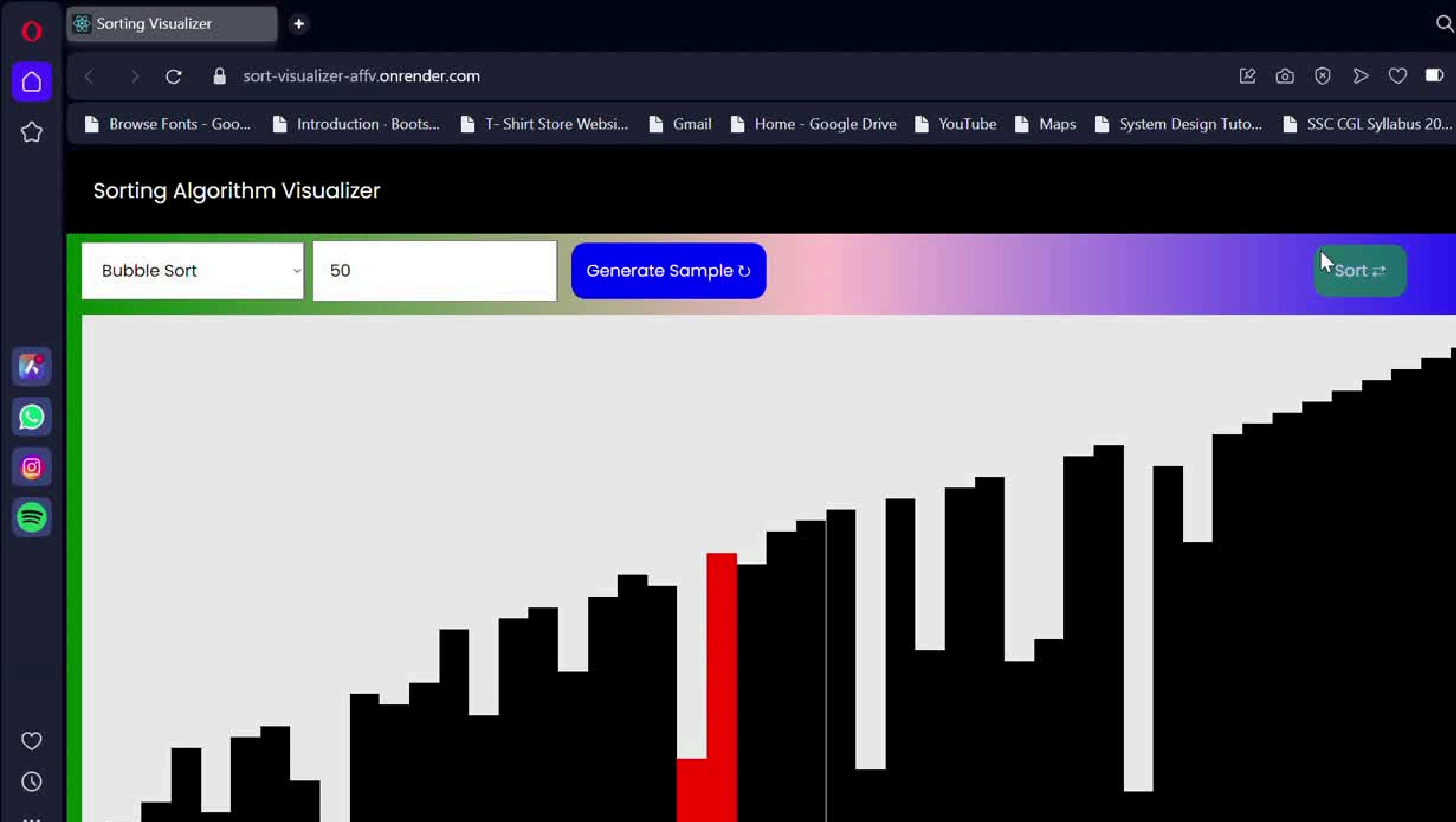
INTRODUCTION

The Sorting Algorithm Visualizer is an interactive web application developed using Node.js, JavaScript, and React. It allows users to explore the workings of various sorting algorithms by visualizing their step-by-step processes. Users can generate randomized arrays, select input sizes, and watch the sorting unfold in real time. This project aims to simplify algorithm learning by making it intuitive, engaging, and visually appealing.



Sorting Algorithm Visualizer



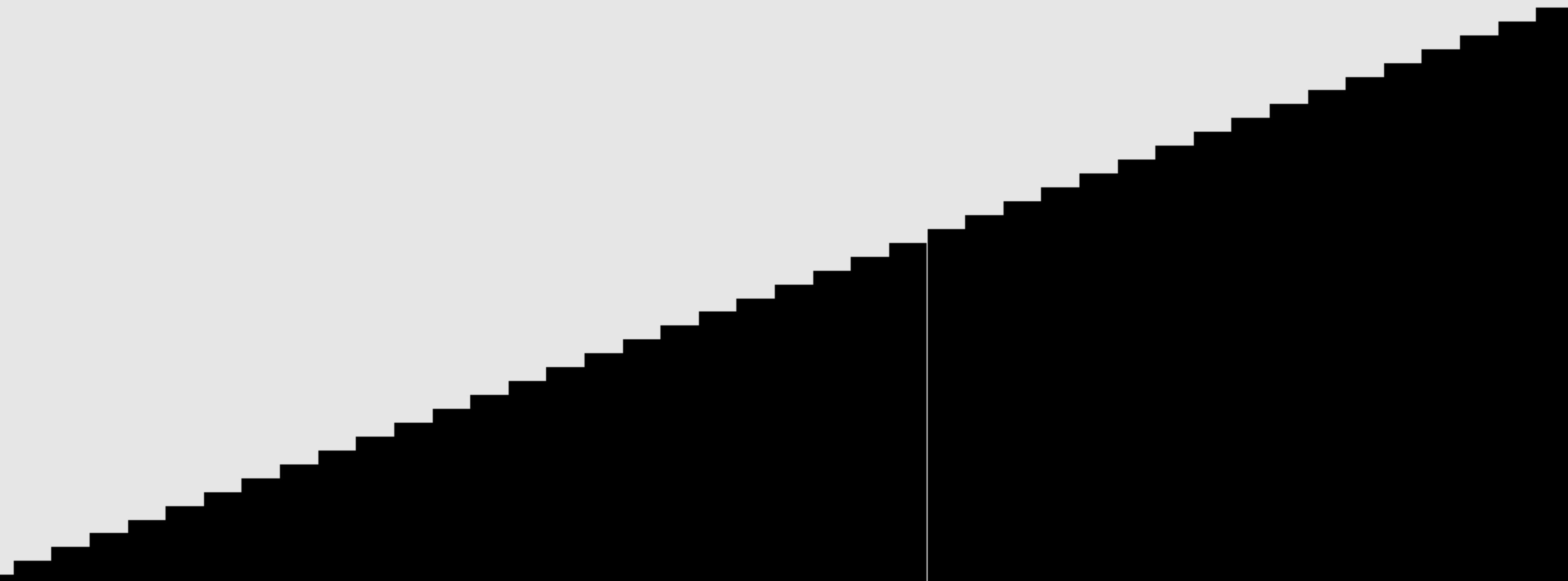


Sorting Algorithm Visualizer

Bubble Sort

50

Generate Sample ↴



Features of Sorting Algorithm Visualizer



Interactive Array Generation

Users can select input sizes and generate randomized arrays dynamically.



Real-Time Visualization

Displays step-by-step sorting processes with color-coded animations for better understanding.



Algorithm Selection

Provides options to visualize various sorting algorithms like Bubble Sort, Merge Sort, and Quick Sort.



User-Friendly Interface

Intuitive design with easy-to-use controls, including buttons for sorting, resetting, and selecting algorithms.

TECH STACK:



Node.js

Handles backend logic and ensures smooth application performance.



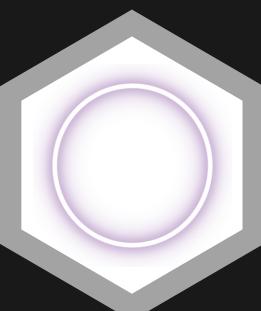
React

Builds the interactive and responsive user interface seamlessly.



JavaScript

Implements sorting algorithms and dynamic user interactions effectively.



HTML/CSS

Structures and styles the interface for an engaging design.