

ZORAVUR SINGH

Student, Coder, Hacker. Let's work on something awesome.

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PROJECTS

Gravity.js

A physics engine in the browser

📅 Jun 2018 – Nov 2018

- Developed a highly accurate real-time gravity simulation, designed to encourage exploration and deeper understanding of orbital mechanics.
- Implemented features such as numerous numerical integration methods, path tracking, and control of constants through intuitive UI.
- Used multithreading through Web Workers and HTML5 Canvas to achieve optimal performance.

Racket-with-JS

A Racket interpreter written in Javascript

📅 Dec 2018

- Created an interpreter for the programming language Racket (a dialect of Scheme).
- Featured a sophisticated Read-Eval-Print-Loop built on top of Node.js, designed for debugging and experimentation.
- Built core components of a parser such as the lexical and syntactic analyzer, as well as carefully managed internal state and scope of the Racket virtual machine.

Serv

A collaborative reporting app for Toronto police

📅 Jun 2018

📍 HackTPS

- Built a full-stack web application that facilitated the sharing of evidence related to crime with the police (designed for the Toronto Police).
- Used the computer vision library OpenCV to recognize faces in large video datasets.
- Used web APIs and frontend libraries to create an aesthetic and functional UI.
- Submitted at the hackathon HackTPS.

SmartLamp

A gesture controlled headlamp

📅 Dec 2018

📍 UTRAHacks

- Built a robotic headlamp with a light source controlled by 2 servos and an Arduino.
- Using LEAP motion sensors, a 3D model of the wearer's hand gestures was created so that the light source could respond to specific gestures.
- Used OpenCV to turn the LED panel away when the lamp's front mounted camera faced another person.

EDUCATION

Bachelor of Computer Science

University of Waterloo

📅 2018 - 2023 (expected)

TECHNICAL SKILLS

Languages Javascript, C++, Haskell, Lisp, Python

Web Tooling React, Webpack

Cloud Platforms Firebase, Heroku

Sysadmin & DevOps Git, Bash

AREAS OF EXPERTISE

</> Functional Programming

Experience with the functional paradigm through languages such as Lisp, Haskell, Elm, Scheme, and Javascript.



ES2017

Proficient with both modern Javascript as well as the extensive Javascript ecosystem.



Linux

2+ years of experience using Linux for development on my personal device.

ACHIEVEMENTS

President's Scholarship of Distinction

University of Waterloo

📅 May 2018

📍 Waterloo, ON

- This scholarship is given to students with a high school average of over 95%.

Top 25% - Canadian Computing Competition

CEMC

📅 Jan 2018

📍 Waterloo, ON

Award of Excellence – DECA ICDC

Deca Inc.

📅 Apr 2017

📍 Anaheim, CA

- DECA ICDC is the international level of the DECA business competition, where students pitch their solutions to business situations.