Derek Xu

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PROJECTS

FluxNote

Electric City Hacks 2017

HTML5 + JavaScript, Socket.io, Node.js

- Uses the magnetometer readings from any smartphone and mathematically calculates the position of a magnetic pen
- Data is sent through a Socket.io backend to a web app which lets the user draw, edit and save images

Finden

Hack the North 2017

React Native + Redux, Socket.io Node.js, Firebase

- Scavenger hunt game where players receive points for finding and taking pictures of randomly generated targets
- Built the application using React Native and Redux
- Used Redux thunks to leverage asynchronous functions
- Connected to the team's backend which handled image processing, dynamic scoreboard and authentication

muBot

1A Final Project 2017

Raspberry Pi, Python, GPIO, SciPy

- Robot that dances and flashes LEDs to the beat of any song
- Parallelized fast fourier transform implemented to provide optimal performance during spectral flux onset detection

Piano Chord Pads

July 2015

Java, Android

- Portable practice and songwriting tool for musicians
- Allows users to choose six chords that can be played by tapping on pads
- Has received over 1000 downloads on the Google Play Store

EDUCATION

University of Waterloo

2017 - 2022

Candidate for Bachelor of Software Engineering

Colonel By Secondary School

2014 - 2017

Earned International Baccalaureate Diploma with a score of 39

SKILLS

Application Development

C/C++, OpenFrameworks, Java, Processing, React Native

Web Technologies

React, Redux, JavaScript, Python, Firebase, HTML, CSS, Flask, jQuery

Learning

TypeScript, SQL, Go, Kotlin, SciPy

Tools

Vim, Git, VSCode, XCode

AWARDS

2017 Electric City Hacks 3rd Place

2017 ECOO Programming Contest Eastern Ontario Regional Champions

2017 ECOO OCDSB Boardwide Champions

USA Computing Olympiad Gold Division

Grade 12 Computer Science (ICS4U) Subject Award

Grades 9-12 OCDSB Silver Medal

INTERESTS

Competitive Programming

Top 20% of users on CSAcademy Top 100 on DMOJ.ca

Music

Guitar, Singing, Piano

Yoyoing

Soccer

Video Games