Derek Xu

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🌐 xuderek.me

PROJECTS

FluxNote
Electric City Hacks 2017

HTML5 + JavaScript, Socket.io, Node.js

- Portable graphics tablet
- Uses the magnetometer in any smartphone to detect the position of a magnetic pen (HTML5 Sensor API)
- 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
- UI built using React Native, state handled with Redux
- 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, Go, Kotlin, SciPy

Tools
Vim, Git, Visual Studio, VSCode, XCode

AWARDS

2017 Electric City Hacks 3rd Place

2017 ECOO Programming Contest Eastern Ontario Regional Champions

2017 ECOO OCDSB Boardwide Champions

USACO Gold Division

Grade 12 Computer Science (ICS4U) Subject Award

Grades 9-12 OCDSB Silver Medal

INTERESTS

Competitive Programming (top 20% of users on CSAcademy)

Music (guitar, singing, piano)

Yoyoing

Soccer

Video Games