Benjamin Yu

Computer Engineer

about

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programming

Java
Python, C
JavaScript
(backbone, node, coffee)
Learning Clojure

interests

machine learning, data science, sports stats, gamedev

education

B.A.Sc. in Engineering Science

University of Toronto 09/2008 - 04/2013

Major in Electrical and Computer Engineering
Thesis: Mobile Hearing Diagnostics

experience

PatientOrderSets

Junior Developer 09/2013 - Present

• Developing features for customer PACS software in JEE and Struts

AMD

SOC Verification Intern 05/2011 - 08/2012

• Verification infrastructure and flow development of random testing methodologies for various chip IP's using Perl, C/C++ and SystemVerilog

Sunnybrook Health Sciences Center - Medical Imaging

Developer/Research Assistant 05/2010 - 08/2010

• Performed study comparing re-perfusion vs. re-canalization as an indicator of clinical outcome

applications

Facebook Recruiting - Keyword Extraction

2013

• Developing topic identifier utilizing scikit, iPython and EC2

Space Bees

2013

• HTML5 multi-player arcade shooter using WebGL, Socket.io and node.js

Forward

2013

• Developed a web-based end-to-end email and project management suite for the SME market, with a paradigm focus on transparency and efficiency.

Sones

2013

• iOS hearing diagnostic game. Developed with Cocos2D-X, Box2D and Stanford STK

coursework

2013

Speech Recognition — Natural Language Computing CSC401

Created a speaker identifier using Gaussian Mixture Models trained over the Mel-frequency cepstral coefficients from the speech waveforms and their phonetic and word transcriptions

2012

Facial Expression Recognition

Achieved a 77% accuracy on a final dataset of 1000 facial expressions with a SVM with an RBF kernel, grid search and bagging

2012

Raytracer

Basic raytracer in C++ with anti-aliasing, glossy reflections, basic refraction, soft shadows, area light sources and texture mapping

2012

Systems Programming

Implemented a dynamic memory allocator with a segregated free list and best-fit search. Parallelized a command-line version of Conway's Game of Life, achieving a 10x speedup compared to the regular serial version

2012

Operating Systems

Developed features for OS/161, a simple operating system which includes a standalone kernel and simple user-land written in C Implemented process management, basic system calls, virtual memory, and a basic hierarchical file system

2012

Processor Optimization

Converting a basic multi-cycle processor on an FPGA in Verilog into a pipeline processor to improve performance Implemented caching, speculatively executing instructions after a branch, forwarding, and additional pipeline stages

2012

Battery Sorting Device

Designed a fully autonomous robot to sort batteries based on size and charge. Fabricated essential components including an H-Bridge motor driver, stepper motor driver, infrared sensors, and power supply