

David Rusu

HI!

I make computers compute :)

Highlighted Projects

SPLASH SEARCH

Search for images by sketching

- Reached #2 on Reddit and survived!
- Stack: Go, Python, Javascript

MC-AIXI MPI

Parallel general artificial intelligence

- Awarded #1 student presentation at diTHINK conference 2016
- Ran on Sharcnet supercomputer
- Stack: C, MPI

ROOSTER ENGINE

Game engine + physics engine featuring continuous collision detection.

- No missed collisions
- Large performance improvements through advanced data structures and algorithms
- Stack: Java, OpenGL

TYPE THE WEB

Firefox add-on for practicing typing on any websites

- Over 4600 downloads
- Stack: Javascript, Firefox Addon SDK, RamdaJS

OFF THE GRID (HACK WESTERN 2)

Real time offline peer-to-peer whiteboard.

- Completed in 36 hours at Hack Western 2. Awarded a top 6 finish.
- Uses p2p networks, no internet required.
- Stack: Swift, Multipeer Connectivity Framework

LAURIER COURSE GRAPH

Dependency graph of WLU courses

- Spring based graph layout
- Stack: Python, Processing.js and Polymer

Awards

- 2016: #1 Student Oral Presentation at diTHINK conference
- 2015: Top 6 Finalist at Hack Western 2
- 2014: 3rd place at Communitech 24h Startup
- 2013-2014: Deans Honour Roll

Publications

SIAM JOURNAL ON APPLIED DYNAMICAL SYSTEMS

- Bifurcations of Central Configurations in the Four-Body Problem with some equal masses

Experience

FULL STACK DEVELOPER (CO-OP), 500PX - TORONTO, ON SUMMER 2016

Worked across teams to develop scalable and clean solutions to interesting and useful problems

- Developed Splash, a sketch based image search engine. *Reached #2 on front-page of Reddit with no downtime!*
- Worked with the 500px Innovation Team and researchers from ULaval to implement an image recommendation engine. *Project resulted in a significant increase in user engagement.*
- Stack: Ruby on Rails, Ruby, Go, Python, Redis, Marionette, CoffeeScript

SOFTWARE ARCHITECT (CO-OP), NORTH60 TECH - MISSISSAUGA ON SUMMER 2015

Designed and implemented architecture for a product in the health space

- Used Agile methodologies to lead team of developers.
- Oversaw development of application across Android, iOS and Web.
- Developed application backend which integrated with existing health care software.
- Stack: Docker, Postgres, Python, Flask, Azure, ReactJS, Flux, Kivy

RESEARCH ASSISTANT, WILFRID LAURIER UNIVERSITY - WATERLOO, ON SUMMER 2014

Worked on a special case of the n-body problem culminating in a paper.

- Used various numerical methods to solve complex differential equations
- Stack: Python, Sage, Numpy, Scipy IPython, Latex

Education

WILFRID LAURIER UNIVERSITY. WATERLOO, ON

Candidate for BSc. Honours Computer Science