

Harold Day

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Professional

National Film Board of Canada

Web Development Team (nfb.ca)

Montreal, QC

2015 – 2017

Created clean internal APIs to interface with Amazon and Kaltura CDNs.
Upgraded 500kloc codebase from Django 1.6 to Django 1.8.
Upgraded existing internationalization mechanisms, removing code while adding functionality.
Delivered customer-facing UI features using jQuery/HTML/CSS, ensuring cross-browser compatibility.
Shaved 1m20s from 1500-case test suite runtime by writing more idiomatic unit tests.
Crafted raw MySQL queries that the ORM could not handle.

Automotive Fuel Cell Cooperation Corp.

Computational Modeling Team

Burnaby, BC

2014 – 2015

Improved STXM image analysis desktop application used by material science researchers.
Redesigned archaic UI into modern experience using PyQt.
Removed performance bottlenecks by rewriting the STXM Image Stack metadata parser.

Past History

Montreal, QC

McGill Porous Materials Engineering & Analysis Lab Built a computational model of hydrogen fuel cells.
Tuango Inc. Used the Salesforce API, QlikView, and MySQL to analyze data and create models for BI.
SNC Lavalin Inc. Risk analysis of construction projects with probabilistic scheduling software and @Risk.
Defence Research and Development Canada Quad-rotor Helicopter Sensor Loading.

Open Source

pico.chat	An IRC-inspired multi-party video chat client in the browser. Uses Haskell/WebSockets, WebRTC & TypeScript.
permanentsignal.com	BBS-style forum with many modern features. SPA built on Django REST Framework, Mithril.js & TypeScript.
miniPNM	Master Thesis-related library. Solution of PDEs via linalg, fluid flow via graph algorithms. Built with NumPy, SciPy, with 3D visualizations in VTK.

Education

McGill University *Master of Chemical Engineering (Thesis Option)*

2013 - 2015

McGill University *Bachelor of Mechanical Engineering*

2007 - 2012

Coursework: Algorithmic Game Theory, Statistical Thermodynamics, Control Systems, Numerical Methods

Awards & Publications

MasterCard's *Masters of Code* Global Hackathon: Won in Montreal, represented Canada in San Francisco (2015)

A. Putz, J. Hinebaugh, M. Aghighi, H. Day, A. Bazylak, and J. T. Gostick, "Introducing OpenPNM: An open source pore network modeling software package," *ECS Transactions*, vol. 58, no. 1, pp. 79–86, 2013

FRQNT-NSERC Industrial Innovation Scholarship (Fully funded Master's degree) (2013)

Other Skills & Interests

Languages: English (Fluent), Spanish (Fluent), French (Intermediate), Japanese (Elementary)

Other: Boxing, Board Games, Puzzles (e.g: Project Euler, Advent of Code), Media Criticism, Politics