

Thomas Davies

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EDUCATION

University of Leeds

Leeds, United Kingdom

Bachelor of Electrical Engineering

Jan 2015-Jun 2015

- International exchange semester from Queen's University
- Relevant coursework in: Digital Communications, Control Systems, Semiconductor Technologies and Embedded Systems Design.

Queen's University

Kingston, ON

Bachelor of Electrical Engineering

2012-2016

- Chief Engineer of the Queen's Space Engineering Team (qset.ca)
- Focusing on power electronics and robotics.
- Holding a GPA of 3.8, member of the Dean's List
- Relevant coursework in: Electronics, Computer Architecture, Numerical Methods and Optimization, Sensors and Actuators, Autonomous Robot Design and Applications of Electromagnetics.

EXPERIENCE

Autodesk

San Francisco, CA, USA

Electrical Engineering Intern, Connected Products

Summer 2015

- Worked closely with engineers of different disciplines to investigate the workflow and identify potential improvements to Autodesk's line of products.
- Developed client side, server side and hardware code for an internet of things wireless platform.
- Worked heavily in JavaScript and Node to create an intuitive and interactive real-time control page for a mobile platform.
- Designed and built embedded PCB, for sensor interfacing, motor control and UART; programmed in C
- Worked extensively with National design and implement a complex sensory system
- Carried out analysis and visualization of over 4 billion data points collected from sensor network
- Made off-site trips for sensor install and system testing

Toronto, ON

Sustainability Research Intern

Summer 2014

- Designed custom circuit boards for a low-cost easily implemented wireless mesh sensor network.
- Refactored large threaded procedural C code base to object oriented C++ code.
- Added JSON configuration over original hard coded node management system.
- Wireless sensor network developed currently in use at Autodesk Toronto to aggregate data for use in Project Dasher (<http://www.autodeskresearch.com/projects/dasher>).

Queen's Space Engineering Team

Kingston, ON

Chief Engineer

Fall 2013 – Ongoing

- Managing a team of over 30 members to design a lunar rover for competition in the University Rover Challenge
- Directly involved in all decisions on Mechanical, Electrical, Science, and Logistical groups
- Lead developer for node.js back end controls and communication protocols between base and rover.

Queen's University

Kingston, ON

Teaching Assistant

Fall 2014 – Ongoing

- Taught weekly lab classes to over 40 students.
- Helped design and mark lab reports, quizzes and assignments.
- Assisted graduate students in running tutorials to take up homework problems and examples
- Taught various courses including: Calculus; Mechanics; Electricity and Magnetism; Computer Science

Camp Robin Hood

Markham, ON

Counsellor In Training(CIT) Unit Lead

Summer 2011 – 2013

- Designed and led a training program for Senior Campers intending to pursue a position as a counsellor and develop their leadership skills.
- Solely responsible for training, placement, and performance reviews of over 60 CIT's.

PROJECTS

- **Lunar Rover** (2015 – Ongoing). Lead engineer for Queen's Space Engineering Team, designing a complex robotics platform for competition in the University Rover Challenge.
- **CareCloud** (2015 - Ongoing). Capstone project at Queen's University developing a scalable hospital paging and patient-doctor matching system featuring custom designed wearable pagers and node.js REST API.
- **Project Primordial** (2015 – Ongoing). Designed and implemented a complex sensor network with over 70 channels of data being polled at 1000 Hz. Installed and tested system off-site before a successful run gathering over 4 billion data points for later analysis.
- **JavaScript and HTML5 Mandelbrot Generator** (2014 – Ongoing). Side project to develop a web based mandelbrot set generator. Developed using JavaScript, HTML5 and CSS.
- **InformaBox** (2014). Third year design project, a sensor array that took various readings and updated a webpage with real time sensor data. C, Python, JavaScript
- **Wireless Sensor Nodes** (2014). While interning with Autodesk, designed a sensor node mesh network using custom boot loaded Atmega 328p with RF modules on a designed PCB. C, EagleCad, Circuitry.

REFERENCES

- **Alex Tessier** – Senior Research Engineer – alex.tessier@autodesk.com
- **Carlos Saavedra** – Electrical Engineering Professor – saavedra@queensu.ca
- **Howie Grossinger** – Owner of Camp Robin Hood – howie@camprobinhood.ca
- **Yan-Fei Liu** – Electrical Engineering Professor – yanfei.liu@queensu.ca