

Production Group Leader Jan 2008 - Apr 2008
General Motors of Canada, Oshawa Car Plant Oshawa, Ontario, Canada

- Managed production staff doing assembly of engines and ancillaries for Chevrolet Impala and Buick La Crosse
- Implemented key parts of General Motors Global Manufacturing Systems initiatives including job rotation
- Developed engine tooling to alleviate operator's ergonomic issues that is still in use and successfully accepted to the General Motors Ideas For Excellence program

Research Assistant for Condition 18 Trials May 2007 - Aug 2007
Marine Institute Offshore Safety and Survival Centre St. John's, NL, Canada

- Involved in sea trials intended to verify rescue vessel capabilities for installations in Atlantic Ocean
- Aided in the development of rescue prediction model based on multiple data sources (video, GPS, written logs)
- Developed improved prediction model that characterized vessel accelerations for more accurate rescue times
- Proposed redesigned portable harsh environment recording equipment setup

Research Assistant for SARnif 150 Towing Trials Sept 2006 - Dec 2006
Marine Institute Offshore Safety and Survival Centre St. John's, NL, Canada

- Heavily involved with field motion capture with digital video recorders
- Analysed video using motion tracking software
- Developed detailed training manual for setup, recording, and motion tracking for unpredictable environments

COMMUNITY SERVICE *Continuous Custody Review Committee* Sept 2009 to present
Monthly review of plans of care for youth in continuous custody of the province of NL

PERSONAL ENGINEERING PROJECTS *Hydrogen Internal Combustion Engine Simulator* Jan 2009 - Apr 2009
Senior undergrad engineering project

- Simulink based dynamics model with models for heat transfer and friction estimation
- Matlab based thermodynamic combustion models for both hydrogen and gasoline based on existing published works
- Model results correlated to several publications and commercially available software package "Lotus Engine Simulation"

Introduction To Chassis Design May 2007 - Jan 2008
Free online book intended for students

- Authored freely distributed book underlying theory on the development of vehicle chassis's for students involved in Formula SAE
- Encompasses two major vehicle designs and outlines structural theory
- Focus on simulation and fundamentals; Working on explicit dynamics impact simulations for vehicle safety for a future update

Electric All Wheel Drive Vehicle Design May 2007 - Aug 2007
Design and simulation project

- Project to develop skills and insight into vehicle development
- Four direct drive brushless motors were designed and magnetostatically simulated
- Chassis was designed with static structural simulations based on FIA motor sport regulations