KEITH WAKEHAM

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St. John's, NL, Canada
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EDUCATION

2003-Present **Memorial University of Newfoundland,** St. John's, NL, Canada
Faculty of Engineering and Applied Science
Currently enrolled in Term 8 of 8 Bachelor of Mechanical Engineering Co-op Program
Graduation Date April 2009

2003 **Holy Spirit High School**, Manuels, NL, Canada
Graduated with honours
Completed 3 Advanced Placement Courses with University equivalency

EMPLOYMENT

Sept 2008 – Current **General Motors of Canada, Oshawa Car Plant** Oshawa, ON, Canada
Maintenance Group Leader- Paint Shop

- Managed a maintenance department dealing with conveyors, robots, and corrosion protection
- Organized preventative maintenance work and directed trades people in responding to breakdowns
- Collaborated with engineering in implementing new vehicle related processes

Jan 2008 – April 2008 **General Motors of Canada, Oshawa Car Plant** Oshawa, ON, Canada
Production Group Leader- Final Assembly

- Managed workers doing assembly of engines and wheels for Chevrolet Impala and Buick La Crosse
- Implemented key parts of GM's Global Manufacturing Systems initiatives including job rotation
- Assisted team leaders in reviewing and implementing changes to job elements on production line
- Developed engine tooling to alleviate operators ergonomic issues and is still in use

May 2007 – August 2007 **Marine Institute Offshore Safety and Survival Center** St. John's, NL, Canada
Research assistant for Condition 18 Trials

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

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

- Worked long days on Ocean research vessel as part of research team under physically demanding environment
- Heavily involved with field motion capture through video and digital video recorders
- Analyzed video tracking tow line to determine direction of force
- Wrote detailed training manual for setup, capture, and motion tracking for unpredictable environments

Jan 2006 – April 2006 **Charon (student startup company)** St. John's, NL, Canada
Founder

- Programmed reconfigurable logic device for recording video direct to ATA standard hard drives
- Developed code to read from hard drive to match standard SMPTE 292 specifications for HD video output
- Designed printed circuit boards for CCD drivers and Analog Digital converter

June 2005 – August 2005 **Design Management Group** Gander, NL, Canada
Engineering Assistant

- Updated city master plans to reflect as built plans in AutoCAD
- Surveyed for Commercial building sites

Skills

Metalwork

- Manual machining experience on metal lathes and turret mills
- Experience machining a variety of metals including aluminum, brass, steel, stainless steel, and titanium alloys
- Extensive use of material properties for mechanical, thermal, vibration, and electromagnetic in design
- CNC experience with MasterCAM X and small 3 and 4 axis CNC mills
- Mig and Arc welding experience and understanding of metal fusion processes

Drafting and mechanical design

- Extensive CAD background with focus on Solid modeling
    - Primary Focus on Solidworks and supporting applications
    - Intermediate experience with Pro Engineer and some exposure to Catia
    - Adept in AutoCAD
- Experienced with engineering analysis using FEA programs such as Ansys Workbench and Cosmos
    - Static and dynamic mechanical loadings (Ansys Multiphysics and Cosmos)
    - CFD including transient and moving mesh analysis as well as fluid structure interaction (Ansys CFX)
    - Static Electromagnetic simulation (Ansys Multiphysics)
    - Strong background in understanding material properties for simulation and there application

General office and computer skills

- Well versed in Office packages such as Microsoft Office and Visio and Project
- Strong background in image and video editing, manipulation, and analysis
- Knowledgeable in the use of Matlab, Simulink, and Maple for simulation purposes

Certification

- Valid driver's license with defensive driver training course
- Occupational Health and Safety Certified by Memorial University in March 2005
- Completed Emergency First Aid training in 2005

Interests

Alternative Energy Automotive and design

- Leader in senior mechanical design project investigating hydrogen combustion engines
- Interested in alternative vehicles and propulsion systems; free time spent designing and researching
- Initiated K1 electric car project to gain valuable design experience for desired career path
- Well researched in battery technologies such as lithium ion, lithium polymer, and lithium iron phosphate
- Strong understanding of available fuel cell technologies and limitations of PEM fuel cells
- Designed and simulated multiple Formula SAE space frames in FEA for size and weight optimization
- Writing book encompassing chassis design theory, optimization, and simulation using Finite Element Analysis

General Interests

- Mountain biking; Trail riding, cross country, commuter cycling, training
- Photography; Local interests, automotive

References available upon request