

DAVID MIKOLAJEWSKI

MECHATRONICS ENGINEERING, CANDIDATE FOR BASC

Quick Contact Info:
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<http://www.mpceng.com/david>

SKILLS

- Extensive mechanical design experience
- Injection molded part design & verification using FDM manufacturing techniques
- Exceptional leadership abilities, demonstrated through student teams
- experienced user of oscilloscopes, signal generators and other electrical lab equipment
- Skilled in CNC operation and Computer Aided Manufacturing (CAM)
- Second Language: German

COMPUTER PROFICIENCY

- Four years of SolidWorks experience
- Seven years of AutoCAD experience
- Programming - Visual BASIC 6, Java, PLC LAD, C, C++, SQL, verilog
- CAD – Alibre Design, Autodesk Inventor
- Website Design - HTML, ASP, PHP, MS Access Databases, Flash, MS Office
- Second Language: German

WORK EXPERIENCE

- **Crosswing Inc.** (September 2010 - December 2010)
Robotic Mechanics Researcher
Markham, Ontario
www.crosswing.com
 - Completed final design iteration of a tendon based, injection molded robotic arm
 - Designed and built omni-directional drive system for telepresence robotics
 - Created build and assembly documentation to support robotic arm project
 - Preliminary design of robotic hand for use with tendon based arm
 - Created a custom gripper pressure sensor for use on gripper fingers
- **Crosswing Inc.** (January 2010 - April 2010)
Robotic Mechanics Researcher
Markham, Ontario
www.crosswing.com
 - Complete re-design of a tendon based, injection molded robotic arm
 - Design of tendon based robotic arm actuator system
 - PCB assembly and testing
- **Crosswing Inc.** (January 2009 - April 2009)
Robotics Electronics Researcher
Markham, Ontario
www.crosswing.com
 - Trouble-shooting & upgrade of a brushless DC motor controller
 - Improved the design of a cable actuator
 - Advised mechanical design feasibility, maintainability, ease of assembly
 - Evaluated the implementation feasibility of Robot Operating System (ROS), willowgarage.com
 - Upgraded the sensory system of a mobile robot
- **University of Waterloo Underwater Technology Team** (August 2007 - present)
Team Leader 2009 MATE competition
Waterloo, Ontario
www.eng.uwaterloo.ca/~uw2tt
 - Complete re-design (DFMA) of vehicle's mechanical system
 - Met two classically distinct design criteria

- Sourced and purchased parts in time to meet deadlines
 - Maintained and optimized team website
 - Synchronized software, electrical and mechanical teams
 - Organized demonstrations for educational institutions, companies, and the public
 - Managed meetings and milestones, met deadlines
 - Re-designed the internal electronics arrangement (August 2007)
- **Bend-All Automotive** (May 2008 - August 2008)
Electrical Engineering Intern
Ayr, Ontario
 - Performed networking between Allen-Bradley PLCs
 - Setup AutoCAD Electrical system from scratch, this reduced the load of modifying drawings
 - Setup and tested a vision system
 - Controlled a stepper motor using PLC ladder logic
- **ASI-Group Ltd.** (August 2007 - December 2007)
Underwater Remotely Operated Vehicle (ROV) Technician
St Catharines, Ontario
Web: www.asi-group.com
 - Designed & built a power-assisted umbilical winch, reducing the workload of field technicians
 - Operated & maintained a quarter-million-dollar ROV (field work)
- **NCR Corporation** (January 2007 - April 2007)
Junior Web Application Developer
Demand Chain Management (DCM), Teradata, a division of NCR
Mississauga, ON
 - Worked with managers to re-organize the DCM dept. workflow
 - Developed a workflow voting web application resulting in less meetings
 - Customized & setup new workflow in JIRA issue tracking system
 - Developed installers and web interfaces in VB6 / ASP / Java
- **FIRST Robotics Team 1114** (September 2005 - June 2006)
St. Catharines, ON
 - Won the Waterloo Regional, GTA, and Great Lakes Regional Competitions
 - Edited Autodesk Inventor parts, created MasterCAM programs, and machined the final parts
 - Assembled copilot control interface (electrical)
- **SKILLS Robotics Team** (September 2004 – June 2006)
Team Leader 2006 competition
St.Catharines, ON
 - Lead a team of four students who created, built, and operated a robot built with minimal funding
 - Used AutoCAD to draw the preliminary frame design of the robot before construction
 - Drew the robot in Autodesk Inventor after completion

EDUCATION

University of Waterloo

- Candidate for Bachelor of Applied Science in Mechatronics Engineering
- Outstanding Achievement; University of Waterloo Underwater Technology Team
- Progressed to Ontario-level consulting engineering competition (Ontario Engineering Competition)
- In pursuit of Management Sciences Option
- In pursuit of Option in Biomechanics

INTERESTS

- Music: guitar, percussion, piano
- Sports: soccer, mountain biking, slacklining, bouldering