



## Personal Information

<b>FIRST NAME / SURNAME</b>	<b>Mark Silverwood</b>
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<b>WEB</b>	<a href="http://www.marksilverwood.com">http://www.marksilverwood.com</a>
<b>NATIONALITY</b>	South African
<b>DATE OF BIRTH</b>	14.Sep.1986
<b>GENDER</b>	Male

## Profile

An adaptable and responsible individual with a passion for developing solutions to unique and challenging problems. I possess a strong technical base in operations research (mathematical optimisation and simulation) and computer programming. I apply a research-focused approach to problem solving with attention to detail and revel in learning new tools and techniques. I enjoy working on prototype ideas, from concept to the finished working prototype; inclusive of all aspects of the job.

## Interests

- Operations Research
- Optimisation
- Simulation
- Prototyping
- Idea Development
- Web Development
- Application Development
- Neural Networks / Deep Learning
- Data Analysis
- Data Visualisation
- IoT (Internet of Things)
- User Interface Design
- Research

## Work Experience

<b>DATES</b>	June 2012 - Present
<b>POSITION</b>	Research Engineer
<b>DESCRIPTION</b>	Application of Operations Research and Systems Engineering techniques in the local mechanised mining sector.
<b>WORK COMPLETED</b>	<ul style="list-style-type: none"><li>• PhD Research focusing on the optimisation of simulation models.</li><li>• Development of a web-based business process mapping and knowledge database application.</li><li>• Simulation consultancy work.</li><li>• Presenting post-graduate lectures on Systems Engineering and Industrial Engineering.</li></ul>
<b>EMPLOYER</b>	The Centre for Mechanised Mining Systems - Wits University
<b>TYPE OF BUSINESS</b>	University Department



## MARK SILVERWOOD Curriculum vitae

<b>DATES</b>	January 2010 - December 2011
<b>POSITION</b>	Data Technician
<b>DESCRIPTION</b>	Analysis of logged race-car data acquisition for the series organiser with the goal of performance equalisation.
<b>WORK COMPLETED</b>	<ul style="list-style-type: none"><li>• Analysis and comparison of vehicle performance data.</li><li>• Development of software to compare data from various different logging systems.</li><li>• Expert opinion on required adjustments to vehicle performance parameters (such as restrictor size, vehicle weight, boost levels).</li><li>• On-site technical support.</li></ul>
<b>EMPLOYER</b>	Supa Production Cars
<b>TYPE OF BUSINESS</b>	Motorsport Series Management

  

<b>DATES</b>	January 2010 - May 2010
<b>POSITION</b>	Research Technician
<b>DESCRIPTION</b>	Optimisation of race-car dampers
<b>WORK COMPLETED</b>	<ul style="list-style-type: none"><li>• Test-lab analysis of dampers on dynamometer.</li><li>• Use of vehicle dynamics software to determine desired characteristics and settings for dampers.</li></ul>
<b>EMPLOYER</b>	ADF Motorsport
<b>TYPE OF BUSINESS</b>	Motorsport Race Team

  

<b>DATES</b>	2nd & 3rd Year Vacation Work
<b>POSITION</b>	Intern (Research & Development)
<b>WORK COMPLETED</b>	<ul style="list-style-type: none"><li>• Analysis of cracking turbochargers</li><li>• Research and testing for the introduction of a new diesel engine</li></ul>
<b>EMPLOYER</b>	Subaru Southern Africa
<b>TYPE OF BUSINESS</b>	Auto-vehicle Manufacturer

## Education and Training

<b>DATES</b>	2010-2011
<b>QUALIFICATION AWARDED</b>	MSc(Eng) with Distinction
<b>INSTITUTION</b>	Wits University

  

<b>DATES</b>	2005-2009
<b>QUALIFICATION AWARDED</b>	Bsc(Eng) Industrial Engineering (Hons)
<b>INSTITUTION</b>	Wits University

  

<b>DATES</b>	2000-2004
<b>QUALIFICATION AWARDED</b>	Matric (with six distinctions)
<b>INSTITUTION</b>	Crawford College



## Additional Education Information

**MSC RESEARCH PROJECT** Application Of Stochastic Programming Techniques To Airline Scheduling

**MSC POSTGRADUATE  
COURSES** Operations Research Methods  
Reliability Engineering  
Production & Operations Management  
Quality Management  
Value Engineering and Analysis  
Management of Technology

**HONOURS DESIGN PROJECT** Charter Airline Scheduling Model

**HONOURS RESEARCH  
PROJECT** Item Shortages: Data Mining Diagnostics

## Skills

**INDUSTRIAL ENGINEERING**

- Operations Research
- Simulation Modelling
- Optimisation Modelling
- Design of Experiments
- Systems Engineering
- Lean Engineering
- Operational Planning

**PROGRAMMING**

- Simio
- Gurobi
- HTML, CSS, Javascript
- Python
- C#
- R
- Tensorflow
- Polymer
- Mathematica
- Matlab

**OTHER**

- Microsoft Office
- Adobe Photoshop
- Adobe Illustrator
- Sketch