

RÉSUMÉ

of

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CAREER OVERVIEW

A professional research scientist in the field of transport, I have worked on a range of projects utilising geographic information systems, simulation modelling, analytical software programs and web-based applications to identify and address transport related issues. A keen interest and proficiency in new technologies lead me to complete a Masters in Information Technology and I am now seeking opportunities to further my technical skills and experience.

EDUCATION AND TRAINING

Master of Technology (Information Technology)
Swinburne University, Hawthorn 2013 – 2014

Key study areas:

- Professional Issues in IT
- Professional Project
- Web Application Development
- Web Application Architectures

Graduate Diploma of Information Technology
Swinburne University, Hawthorn 2008 – 2011

Key study areas:

- Internet technologies
- Web programming
- Database analysis and design
- Information systems project management

ArcGIS Desktop II
ESRI Australia, Melbourne 2004

Advanced Diploma of Business Systems (Information Technology)
Spherion Education, Melbourne 2001 – 2003

Certificates II & III in Information Technology (Internet & Web Site Design)
Computer Graphics College, East Sydney 2000

PROFESSIONAL EMPLOYMENT HISTORY

2004 – present **GIS Analyst / Research Scientist**
Network Operations Team
ARRB Group Vermont South
Transport Research Company

ARRB Group provides research, consulting and information services to the road and transport industry. As a member of the Network Operations team, my primary role is to deliver projects in the field of traffic management and operations. Our primary clients are the state road authorities of Australia and New Zealand but we also provide consulting services to local governments and private industry.

Responsibilities

- Project management and delivery:
 - Writing proposals
 - Defining tasks and work schedules
 - Managing staff and contractors
 - Conducting meetings and workshops
 - Budgeting and invoicing
 - Research and analysis
 - Report writing
 - Delivering presentations
- Data modelling and analysis
 - Mapping and geoprocessing of spatial data using GIS software
 - Analysing tabular data using Excel, VBA, Access and SQL
 - Developing APIs to collect real-time GPS probe data
 - Modelling roads and traffic using microsimulation software
 - Developing customized traffic modelling and assessment tools

Achievements

- Learning and applying new skills beyond initial job description
- Developed a number of customized traffic modelling and assessment tools
- Promoted to position of a Professional Research Scientist
- Managed and delivered projects on time and on budget
- Commended by clients for quality of report writing
- Able to continue a full time workload while studying part time and achieving high academic results

Research and Consulting - Past and Present Projects:

- Developing a web-based interface for the reporting of network performance indicators in Hobart. This project includes the development of a program to extract probe speed data, associate traffic flow data and compute indicators such as travel time and delay.
- Network Performance Analysis for Perth Congestion Management – analysis and reporting on the performance of the Perth road network. Used GIS to integrate various sources of road inventory data with traffic volume and speed data to provide measures of delay, average speeds, travel time reliability and overall level of service (LOS).
- Guide Content on Managed Motorways – analysis of freeway traffic flow breakdowns and guidance on implementation of ramp metering and other ITS tools to improve traffic flows.
- Cooperative ITS (C-ITS) – research into the requirements for Australia to implement vehicle-to-vehicle and vehicle-to-infrastructure communications to improve road safety and productivity. Fundamental requirements include wireless communication, digital mapping and global positioning.
- ITS Traffic Controls – evaluation of the effectiveness of rural ITS signs and other traffic control tools for road condition information, flood warning and road closure.
- Developed programs which encode REST APIs to access real-time travel speed data from GPS probes through the HERE Maps platform.
- Arterial Route Travel Time Estimation – development of a C program which reads real-time data from traffic signals and vehicle detectors along a specified arterial route to estimate route travel times.
- Developed the T06 Interface for TRARR, a legacy traffic simulation program built in FORTRAN. The T06 creates the input text files, runs TRARR, imports the output text files and graphically displays the outputs.
- Heavy Vehicle Roadwear Compliance Tool – Excel/VBA program to assess roadwear compliance for all classes of heavy vehicles based on the load mass on each axle group.
- Used traffic simulation software to model alternative traffic signal phasing and truck lane restrictions on freeways to assess their effects on traffic performance indicators such as mean speeds, lane changing, travel times and fuel emissions.
- Road Safety Risk Assessment – analysis of crash rates on all state roads using GIS to determine relative crash risks for defined road and intersection stereotypes.

2003 – 2004 **Caltex Helpdesk Support**
OnQ Business Systems Heidelberg
Software business systems for payments processing

Responsibilities:

- Provided helpdesk support to Caltex and Ampol service stations for their point-of-sale, eftpos, fuel and account management systems
- Trouble-shooting for software and hardware systems
- Remotely accessed unmanned fuelling stations and eftpos systems to identify faults and reinitialise software.
- Organised transmission line checks and hardware repairs or swaps

2003 **Project Administrator**
NMIT Flexible Learning Solutions
Computer Training for the Victorian Police Force

Responsibilities:

- Provided telephone helpdesk assistance to trainees
- Managed the student Access database
- Developed a Visual Basic data tally program.

SOFTWARE AND PROGRAMMING SKILLS

- Database Design and Analysis: SQL, Oracle and Access
- Geographic Information System software: ESRI ArcGIS, MapInfo and QGIS
- Programming Languages: Java, .NET, Visual Basic, C and Python
- Web Development Languages: HTML, XML, CSS, PHP and JavaScript
- VISSIM and Aimsun traffic microsimulation software

ASSOCIATIONS

- Vermont Junior Football Club – 2017 U8s team manager
- Vermont South Tennis Club – 2017 social member
- Vermont South Auskick – 2016 coach
- Forest Hill Junior Football Club – 2015 committee member and Auskick coordinator