

Senior Data Scientist, PhD in Information Systems from UNSW Australia

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# Behrang Assemi

- Highly skilled in **business intelligence and insight generation using Tableau and Power BI, statistical analysis with R, programming with C++/C#/Java/SQL and AWS/Azure cloud services.**
- Worked as a **CIO, CEO, IT consultant and Analyst-Programmer** in a variety of industries including IT, electronics and food processing.
- Co-founded and managed **IT start-ups**, established **industry partnerships** and delivered a series of **commercial IT/business intelligence products/services.**

## SKILLS

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### Data Analysis:

Proficient in **applied statistics** including **discrete choice** experimentation and modelling (**logit models**), **deep learning (neural net)**, **SVM, classification and clustering**, **partial least squares (PLS)** path modelling, **structural equation modelling (SEM)**, **time series analysis** and **survival/hazard analysis**

### Big Data and Business Intelligence:

**Amazon Web Services (AWS)** for big data processing including EMR, Hive, Redshift, Athena, Glue, Kinesis, Hue, **Microsoft Azure and Power BI**

### Programming:

**R** (including **GGPlot**), **Python**, C, C++, **C#**, Objective-C for iOS, Java for Android, **T-SQL (Microsoft SQL Server)**, HTML, CSS, JavaScript, **ASP .Net**, RMarkdown, R Shiny, APIs

### Statistical Software and General IT:

**RStudio**, IBM SPSS and AMOS, PLSGraph, SmartPLS, Limdep and NLogit, Leximancer, **QGIS** (Geographic Information System), **Agile development methodology (SCRUM)**, Linux Shell, Adobe Creative Suite, **Microsoft Office 365**, MS SQL Server, Oracle SQL, MySQL, **Git**, MS Project, MS Visio, Trello

## EXPERIENCE

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Feb 2019 – Present	<b>Data Scientist, iMove Australia Research Fellow (Level B)</b> <i>Faculty of Engineering, Queensland University of Technology</i>
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**External stakeholders:** Brisbane City Council

**Tools and languages:** R, Shiny, RMarkdown, Power BI, NLogit, Key Survey, QGIS, ArcGIS, Trello, AWS S3 and Athena, SQL, Python

**Tasks:** Direct engagement with Brisbane City Council for business analysis, modelling and evidence-based policy development; conducting parking utilisation surveys; exploratory visualisation and statistical analysis; spatio-temporal clustering of parking utilisation and payment patterns, long-term parking availability forecasting

**Models and algorithms:** Prophet, XGBoost, Random forests, ARIMA models; Discrete outcome logit models; Spatial cluster analysis; Exploratory data visualisation

**Products/Services:** Long-term parking availability forecast published on the council's open data website; A parking data repository website using R bookdown package; A report and three presentations on on-street parking utilisation in Brisbane CBD; Power BI dashboards for on-/off-street parking

**Nov 2013 – Jan 2019**      **Data Scientist, Research Officer (Level A)**  
*Faculty of Engineering, Architecture and Information Technology, University of Queensland*

**External stakeholders:** NZ Ministry of Transport, QLD Department of Transport and Main Roads, AUT

**Tools and languages:** R, Shiny, RMarkdown, Latex, Git, Java, C#, ASP.Net, Microsoft SQL Server, MySQL, Objective-C, Trello, Microsoft Project, Spark and R's sparklyr package, QGIS, AWS EC2, UQ High Performance Computing (HPC) service, Hadoop, SmartPLS, NLogit

**Tasks:** Design and development of a travel survey smartphone app; developing predictive and explanatory models of people's travel behaviour; origin-destination matrix generation based on public transit smart card data; developing heavy vehicle safety models

**Models and algorithms:** Nested logit; Logistic regression models; Partial least squares (PLS) models; Multiple discriminant analysis; Random forests analysis; Neural networks; SARIMA; Holt-Winters forecast analysis; Survival models; Graph analysis; Automated travel mode detection algorithm for GPS data; Transit origin-destination estimation algorithm

**Products/Services:** Two smartphone apps for Android and iOS; A shiny dashboard for Queensland's heavy vehicle safety schemes; Multiple executive reports and presentations for external stakeholders

**July 2010 – Nov 2013**      **Research Scholar and Data Analyst**  
*Business School, University of New South Wales (UNSW Australia), Sydney*

**External stakeholders:** Online service providers on UpWork and Amazon Mechanical Turk

**Tools and languages:** C#, ASP.Net, MS SQL Server, IBM SPSS, AMOS, PLSGraph, SmartPLS, NLogit, R, Oracle

**Tasks:** Design-implementation of a choice experiment; conducting a longitudinal data collection and analysis

**Models:** PLS; Nested logit; Structural equation models (SEMs)

**Products/Services:** A customisable discrete choice experiment tool implemented with ASP .Net and C#; a nested logit model which predicts customers' choices based on provider profiles with an accuracy above 70%; a PLS model which predicts providers' business outcomes in the long-term based on their current profile information with an accuracy above 60%

*Experience prior to 2010 can be provided upon request*

## QUALIFICATIONS AND CERTIFICATES

- **PhD in Business**, University of New South Wales (UNSW) Australia, 2019
- **Master's in Computer Science**, Sharif University of Technology (SUT), 2006
- **Bachelor's in Software Engineering**, Tehran Polytechnic (AUT), 2003
- **IBM Design Thinking Master Class, AWS Specialty in Big Data, Foundations of Data Science Courses** (UC Berkley), **Discrete Choice Analysis** (Sydney University), **Transport Data Analysis and Modelling** (QUT), **Data Science Specialisation** (Johns Hopkins University), **Advanced Experimental and Behavioural Economics** (UNSW Sydney), and many personal development and professional skill courses

## ADDITIONAL ACTIVITIES

- Published 12 **A\*/A journal papers, conference papers and book chapters**.
- More than 10 **interviews and business articles** on ERP, enterprise software solutions and IT adoption
- Been awarded multiple **research grants** and **start-up funds** with a total value of **\$108,000**.
- More than 20 **invited talks and presentations** on data science and advanced modelling techniques
- **Organised and chaired** workshops and seminars with large audience.
- Speaking and understanding **French** and Persian.