






# Chamal Gomes

 [www.linkedin.com/in/chamal-gomes166](https://www.linkedin.com/in/chamal-gomes166)  
 <https://github.com/gomesc166/>  
 0449532635

 [chamalgomes166@gmail.com](mailto:chamalgomes166@gmail.com)  
 <https://chamalgomes.ml/>  
 1/77 Fitzgerald Road, Hallam, Vic 3803

## Career Objective

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An enthusiastic and hardworking actuarial graduate who enjoys solving real world problems: I am focused on applying actuarial analytical skills across a wide range of fields and am keen to develop a blend of data analysis expertise and business acumen in my career.

## Education

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### University of Melbourne

*Bachelor of Commerce (Actuarial Science)* 2015 - 2017

### University of Melbourne

*Master of Commerce (Actuarial Science)(Research Pathway)* 2018 - 2019

### The Institute of Actuaries of Australia (IAA)

*Exemptions for CT1, CT2, CT3, CT5, CT7* 2015-2019

### Deeplearning.ai

*Deep-Learning Specialisation* 2018

*Reinforcement-Learning Specialisation* 2018

## Key Skills

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- Proficient Machine Learning, Deep-Learning and Reinforcement Learning with Python.
- Strong Python/R skills for feature engineering
- JIRA configuration and management for reporting.
- Tableau/PBI for data visualization and reporting.
- Strong Agile skills for project management.
- VBA for Microsoft suite application automation.
- Deep-Learning Frameworks: Tensorflow, Keras
- Reinforcement-Learning Frameworks: OpenAI
- GCP instance configuration and management
- SQL database management and ER modelling
- Data mining with Selenium and variations.

## Experience

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### LILabs Australia - Business Analyst

2019 Jun - Present

- Project planning and Scrum board management.
- Project stakeholder management and communication.

### Unimelb Machine Learning Student Association - Education Officer

2019 Jun - Present

- Conducting weekly machine learning workshops for machine learning students.
- Managing teams for competing in data science competitions.

### NMG Consulting - Model Developer

2019 Feb - 2019 Apr

- Developed deep-learning models for a client of NMG Consulting for fraud detection.
- Bench-marked industry leading models against Deep-learning models.
- Presented key findings and final report to client upon completion of the study.

### NMG Consulting - Actuarial Intern

2018 Nov - 2019 Feb

- VBA automation of RBC calculation and industry benchmarking.
- R/R Shiny project engagement and development for industry insights.
- General insurance solvency and liability valuation.




## Masters Research

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- Obtained First Class Honors for masters research report, awaiting journal publication. 
- Research encompassed the use of Gaussian Restricted Boltzmann Machine (RBM) and Deep-Autoencoders for unsupervised fraud detection.
- Introduced a New Unsupervised Variable Importance sampling methodology with Deep-Autoencoders.

## Project Experience

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| <b>Kaggle IEEE Fraud Detection (Ongoing)</b>   | 2019 |
| <ul style="list-style-type: none"><li>○ Feature engineering and selection using SVAE's.</li><li>○ Modelling approach encompass Gradient Boosted Random Forests.</li></ul>  |      |
| <b>Kaggle Generative Image Generation (Ongoing)</b>  | 2019 |
| <ul style="list-style-type: none"><li>○ Use of Deep Convolutional Generative Adversarial Networks (GANs) for image generation</li><li>○ Parallel GPU configuration for training the model on GCP</li></ul>   |      |
| <b>Kaggle Recursion Cellular Image Classification (Ongoing)</b>  | 2019 |
| <ul style="list-style-type: none"><li>○ Variational Autoencoders is being investigated as the starting point</li></ul>   |      |
| <b>Kaggle LANL Earthquake Detection Competition</b>  | 2019 |
| <ul style="list-style-type: none"><li>○ Use of Neural ODE along with RNN(LSTM) methodologies for time series prediction.</li></ul>   |      |
| <b>Kaggle Quora Insincere Question classification Competition</b>  | 2019 |
| <ul style="list-style-type: none"><li>○ Use of Bidirectional RNN for enhanced NLP modelling.</li></ul>   |      |
| <b>EY Next Wave Data Science Competition </b>   | 2019 |
| <ul style="list-style-type: none"><li>○ Used telematics data for devices such as cellphone to predict future location</li><li>○ Based on the predicted location, classified whether or not the device is in the city zone</li></ul>  |      |
| <b>SOA (Society of Actuaries) Case Study Challenge </b>   | 2018 |
| <ul style="list-style-type: none"><li>○ Assessed the sustainability of the long-term care system of a hypothetical country and provide recommendations on continued viability</li><li>○ Provided actuarial modelling to estimate the inflows and outflows of the long-term care system, considering factors such as improving mortality, care levels transitions, economic trends, caregiver shortage etc.</li></ul> |      |
| <b>UBS Investment Banking Challenge </b>  | 2018 |
| <ul style="list-style-type: none"><li>○ Advised TABCORP on the merits of the potential acquisition of Tatts.</li><li>○ Recommended acquisition price using different valuation methods.</li><li>○ Provided suggestions on the dealings with regulators such as ACCC, ACT (Australian Competition Tribunal) while staying in line with the regulations.</li></ul>   |      |