**DR. GARETH KENNEDY**

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**PROFILE**

Creative data analytics leader who has built and led data science and data engineering teams to complete projects for start-ups, mid-sized companies, academic clients, and large enterprises. Deep technical background with over a decade’s experience in cutting edge predictive analytics, mathematics, machine learning, statistical analysis and high-performance computing.

Highly skilled in generating opportunities and insights from data and effectively communicating these to C-suite, technical and non-expert audiences. Cross cultural communication skills honed while working in Australia, Spain and China. First-hand experience with advanced AI projects for a German consulting company in China led to becoming a frequent public speaker in Australia and Taiwan on AI, data science, data privacy and ethics, and on how the entrepreneurial ecosystems in China, Europe and Australia differ.

**SKILLS**

**Team Management**: Agile methodology (Scrum or Kanban as appropriate) followed for projects inclusive of internal and external stakeholders. Waterfall methodology used for projects at risk of scope drift

**Cloud Platforms**: have deployed enterprise scale AI and predictive BI products as scheduled and real-time pipelines individually and as a team leader using both AWS and GCP services

**Machine Learning**: Deep Neural Networks deployed and trained using TensorFlow (also see publications).
NLP, SVM, PCA, kNN, k-means and apriori routinely applied using sklearn or R libraries

**Action Calls**: Automated notifications and/or visualizations inc. dashboards (Tableau, Qlik, Shiny, Dash etc)

**Coding Languages**: Python, R, C, Fortran, SQL and bash scripting

**EXPERIENCE**

**Data Engineering Manager: 2/2020 – present**

* Leading the data engineering team responsible for maintaining key data assets for the central data science group that have provided critical insights to Australia Post C-suite during the Covid-19 crisis
* Working with business decision makers to drive better customer, people, and commercial outcomes
* Developed innovative data solutions based on rich data sets and took them to market
* Currently leading the development of the AI ethics standards for Australia Post

**Consulting Data Scientist, Melbourne: 11/2018 – 1/2020**

* **Data Science Lead** at [isgood.ai](https://isgood.ai/) (a social good start-up) responsible for leading a team of 6 data scientists applying Natural Language Processing (NLP) techniques to document comparison
* **Subject Matter Expert** for the Applied Analytics course and consultant for the Consumer Analytics course at RMIT Online's ["Master of Data Science Strategy & Leadership"](https://studyrmit.online/ppc/master-data-science) program
* **Frequent public speaker** in Australia and Taiwan on AI, data science, data privacy and ethics, and on how the entrepreneurial ecosystems in China, Europe and Australia differ
* Provided **object detection** solutions in AWS for a Melbourne based start-up in insurance assessment

**MCON Group (Shanghai): Data Scientist: 10/2016 – 10/2018**

* Initiated the company’s pivot into offering predictive BI products to clients freeing up consultants’ time to focus on client requirements, and provided a scalable income source to MCON
* Built the data science team and overall data capability in the organisation through active training
* Mentored BI and data scientists leading to their independent development of CRM client solutions
* Positive engagement with clients through all stages of the project life cycle
* Created scalable PoC models for IoT projects in smart retail and Industry 4.0 factories in China
* Worked closely with the CEO to increase MCONs predictive BI capability in financial anomaly detection, data mining for marketing campaigns, customer churn, vehicle damage and insurer next best action classifier based on a customized DNN and AB testing for BMW China
* Suite of products directly contributed to the [acquisition](https://www.msxi.com/en_au/news/msx-international-announces-strategic-investment-in-mcon-group/) of MCON by MSX International

**University of Melbourne: Postdoctoral Research Fellow: 5/2015 – 6/2016**

* Development of the Python layer for the [underworld](https://github.com/underworldcode/underworld2) software which models geophysical systems
* Trained researchers and resource industry professionals by running workshops and seminars

**Chinese Academy of Sciences (Beijing): Postdoctoral Research Fellow: 7/2012 – 1/2015**

* Led an international team in further development of a galactic centre model
* Invited speaker to technical, non-specialist and public audiences in Europe and Asia
* Mentored summer intern, masters and Ph.D. students from Kazakhstan, the U.S.A., and China

**Monash University (Melbourne): Postdoctoral Researcher: 1/2011 – 5/2012**

* Created the Monash Electrochemistry Simulator ([MECSim](http://www.garethkennedy.net/MECSim.html)) software package

**Universität de Barcelona: Postdoctoral Researcher: 12/2008 – 12/2010**

* Modelled the galactic centre by building a parallel N-body CPU cluster code in Fortran and OpenMP

**EDUCATION**

**PhD in Astrophysics (2008): Monash University** (47th in global QS rankings for 2008)

* Thesis applied chaos theory to astrophysics, entitled "Problems in stellar and planetary dynamics"

**ACHIEVEMENTS**

* **Publications:** including the application of [Bayesian statistics](https://pubs.acs.org/doi/10.1021/acs.analchem.9b00129) and [DNNs](https://pubs.acs.org/doi/10.1021/acs.analchem.9b01891). Full list of scientific peer-review papers in top-tier journals in fields of astrophysics, electrochemistry and computing is [here](http://garethkennedy.net/Publications.html).
* **Communication** of the value of data science to the [automotive industry](https://youtu.be/Lj_qGe7S1cg) and Australia Post (to the BoM) and on the differences in the use of AI between China and western countries ([recent list](http://garethkennedy.net/aboutme.html)).
* **TEDx** (Beijing, 2015) public talk on mathematics entitled [“Chaos. Order. Beauty.”](https://youtu.be/MzFHPyURIQw)
* **Mentor** in the Betty Amsden AO Mentoring [Program](https://www.monash.edu/about/mentoring/betty-amsden-alumni-mentoring)2020
* **External PhD supervisor** (Monash, 8/2019 - present) providing ML expertise to PhD candidate