

David King Gu Ma

Nationality: Australian
Phone: +61 401 886 782
Email: hello@david-ma.net

PROFILE

Studied Bioinformatics at the University of New South Wales.
Specialising in Data Visualisation, User Experience and Community.

EXPERIENCE

- 2015 - Current
Developer — Worked on the Doig group's PathOS project at the Peter MacCallum Cancer Centre, an application for curating genetic variants found during high throughput sequencing of cancer patient samples. I oversaw the front end development, user experience and developer operations.
- 2016 - Current
Lead Organiser — Ran HealthHack Australia for Open Knowledge Australia. I was responsible for the Melbourne location, national website and national technical operations. HealthHack Australia is a 48 hour hackathon which brings together more than 300 participants in 5 cities, with representatives from dozens of hospitals, research institutes and tech companies, to tackle real problems presented by healthcare professionals for hackers to solve.
- 2013 - 2015
Developer — With the O'Donoghue Lab at the Garvan Institute on the Minardo project (<http://minardo.org/>), a continuation of my undergraduate thesis (see below). I worked with a graphic designer and biologist to produce a Cell Snapshot (see publications), a webpage diagram of the Insulin Signaling pathway using D3.js to tie data to an SVG prepared in Adobe Illustrator by the graphic designer.
- 2013
Bioinformatics Undergraduate Thesis — At UNSW, designing and implementing a bespoke user interface for the purpose of displaying time series mass spectrometry data projected onto the insulin signaling pathway, targeting the specific needs of researchers in the Garvan Institute of Medical Research, with the long term goal of generalisability to other datasets and research needs. (<http://minardo.org/>)
- 2013
Internship — With the O'Donoghue Lab at the CSIRO on the Aquaria project (<http://aquaria.ws/>) under Dr. Sean O'Donoghue. Worked in web development, design and data visualisation.
- 2012 - Current
Online Crowd Management — Managed a large online community of over 250,000 subscribers for 36 months, including designing the web layout of the forum and increasing intra-community-participation
- 2013 - Current
Online Event Management — Organised 4 international photography competitions, balancing sponsorship, prizes, promotion and the legal rights of the photographers and their photos. (<http://redditphotography.com/bestof2014.html>)

COMPUTER LANGUAGES & TECHNICAL SKILLS

HTML, Javascript, CSS, Wireframing, Node.js, Bash, Shell, SQL, D3.js, JQuery, User Experience, Agile, JIRA, Confluence, Groovy, Grails, DataTables

PUBLICATIONS

[SnapShot: Insulin/IGF1 Signaling](#) — An interactive visualisation of the insulin signaling pathway.

Ma, David KG, Christian Stolte, James R. Krycer, David E. James, and Seán I. O'Donoghue. "SnapShot: Insulin/IGF1 Signaling." *Cell* 161, no. 4 (2015): 948-948.

[Visual Analytics of Signalling Pathways Using Time Profiles](#) — A textbook chapter on the application of visual design techniques to better present data, specifically time series proteomics data.

DKG Ma, C Stolte, S Kaur, M Bain, and SI O'Donoghue. In Sun C, T Bednarz, TD Pham, P Vallotton, D Wang, eds. *Signal and Image Analysis for Biomedical and Life Sciences*. Switzerland: Springer, 2014;3-22.

[Visual analytics of the insulin signalling pathway using phosphorylation time profiles](#) — Conference proceedings, detailing a new solution to visualising high dimension network graphs.

DKG Ma, C Stolte, S Kaur, M Bain, and SI O'Donoghue. In *Proceedings of the 2013 International Symposium on Computational Models for Life Sciences (CMLS-13)*, Sydney, Australia. AIP Conference Proceedings 1559, 185-96.

AWARDS

The Minardo project was part of Biocode, a finalist entry for the **[2015 Eureka Prize for Excellence in Interdisciplinary Scientific Research](#)**.

[Minardo: Untangling the Hairball](#) won the Nature Methods poster prize at VIZBI 2016.

EDUCATION

Trinity Grammar School — International Baccalaureate
University of New South Wales, Sydney, NSW — Bachelor of Engineering (Bioinformatics)

REFERENCES

Dr. Anthony Bell (Principal Scientist, Molecular Pathology, Peter MacCallum Cancer Centre) —

anthony.bell@petermac.org

Dr. Sean O'Donoghue (OCE Science Leader, CSIRO) — sean.odonoghue@csiro.au

Katherine Cheng (Partner Manager, SmugMug) — katherine@smugmug.com