

David O'Donohue

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<https://www.linkedin.com/in/david-odonohue/>

<https://github.com/davidodonohue>

## Personal Projects

### Fly

Fly is a basic game I created while learning JavaScript. It is based on the helicopter game.

<https://davidodonohue.github.io/fly.html>

### Flexible Psyche

Flexible Psyche is a website I am developing for my wife, who is a clinical psychologist intending to open a private practice.

<https://davidodonohue.github.io/rosalie.html>

### TutorHelper

TutorHelper contains several python scripts which automate repetitive tasks involved in tutoring, such as creating feedback templates and sending the finished product en masse.

<https://github.com/davidodonohue/tutorhelper>

### Tic Tac Flow

Tic Tac Flow is a graphical implementation of tic tac toe using the tkinter package. It features an AI opponent implemented using the negamax

algorithm with alpha-beta pruning as an optimisation.

<https://github.com/davidodonohue/tic-tac-flow>

### Logicosm

Logicosm is a command line interface python program which gamifies mathematical practice and encourages pattern seeking in children.

<https://github.com/davidodonohue/logicosm>

### XOR-Encryption

XOR-Encryption is a python script which can encrypt and decrypt files and folders using the XOR operator on the bytes of a file and a key, which can be chosen or randomly generated.

<https://github.com/davidodonohue/xor-encryption>

### Neuroevolution

Neuroevolution is a python program which uses an evolutionary algorithm to train neural networks through mutation across successive generations.

<https://github.com/davidodonohue/neuroevolution>

## Experience

### Science Mentors ACT, Computer Science Mentor

Jan 2019 – Present

In this volunteer role, I am mentoring a grade 9 student through a research project in computer science. We wrote a scissors-paper-rock bot which uses machine learning to exploit the inability of humans to choose moves which are truly random. We also described a mathematical conjecture which revealed insights into the assumptions of the machine learning framework.

### Veritec, Associate Consultant

Jan 2019 – Present

I worked autonomously to support other project members to deliver a detailed design document to the client. I created and ran a workshop on inter- and intra-personal skills. I developed a proof-of-concept web form for the Department of Agriculture using and integrating a static webpage, JavaScript, and an Azure LogicApp to send information and files

<https://davidodonohue.github.io/dawr-poc.html>

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Australian National University, Computer Science Tutor  
Jul 2017 - Present

I am responsible for helping classes of first year students to successfully complete the course, as well as marking their assignments and providing them with feedback. I independently created video tutorials on the topics most students found the hardest

([https://www.youtube.com/channel/UCalf\\_ITbJtXeo3mWtMMVRkQ](https://www.youtube.com/channel/UCalf_ITbJtXeo3mWtMMVRkQ)), and am consistently a top contributor on the online forums. In the second semester of 2018, my class showed the greatest improvement between their average performance on the mid-semester exam and their average performance on the final exam.

Primary caregiver for infant  
Jun 2016 – Dec 2018

Department of Health and Human Services,  
Provisional Psychologist  
Jan 2014 – Jan 2015

PsychologyWorks, Psychologist  
Sep 2013 – Dec 2013

University of Tasmania, Provisional Psychologist  
Jul 2012 – Jun 2013

University of Tasmania, Research Assistant  
Jul 2012 – Feb 2013

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Big Improvements Tutoring, Tutor  
Jul 2016 – Jul 2017

## References

Ekaterina Lebedeva  
0478 530 478

Ekaterina is a lecturer at ANU and a recipient of the EW Beth Dissertation Prize. She employed me to tutor COMP1100 at ANU.

Prithvi Reddy  
0468 776 945

Prithvi is a PhD candidate at ANU and a co-founder of [thaum.io](http://thaum.io). He tutored COMP1100 at ANU with me.

Kristen Webb-Foss

0439 383 721 [kristenalicewebb@gmail.com](mailto:kristenalicewebb@gmail.com)

Kristen is the manager of Anglicare's Disability Clinical Team. She was the Senior Practitioner for the disability sector when I was working there.

Martine Fourie  
0401 134 254

Martine is a speech pathologist and a psychologist who worked with me in the disability sector.

## Education

Master of Psychology (Clinical) (2012 – 2015)

Bachelor of Psychology with Honours (2008 – 2011)

## Skills

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|-------------|--------|
| • Python    | • HTML |
| • Haskell   | • Git  |
| • Bootstrap | • Java |
| • CSS       | • C    |

## Extras

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|-------------------------------|--|
| • Baseline security clearance | • Introduction to Computer Science and Programming using Python (Certificate from MIT through edX) |
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- Boyapati Computer Science and Mathematics Prize (2015)
- Commendation from the Deputy Dean of Science Education (2015)
- Mensa Australia Member
- Golden Key International Honours Society Member