

Aaron Jordan Kaw

Curriculum Vitae

Ocean Acoustics Modeller
NW Sydney, NSW, Australia

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🌐 <https://github.com/kapple19>

Employment

2017–Current **General Sonar Studies Scientist**, *Thales Underwater Systems*, Rydalmere Australia
Experience and expertise includes:

- Specialisation in ocean acoustics modelling.
- Ocean sonar mathematical models implemented in MATLAB and C++ for project applications.
- Team development of an ocean sonar performance computational model as a server written in C++: algorithm implementation, benchmarking, and documentation; deployment to customers.
- Design phase sonar performance analysis.
- Pre and post sonar trial data analysis.

2015–17 **Self Employed Tutor**, teaching primary and high-school students in multiple subjects, including practical piano, musical theory, and mathematics

Education

2012, **Bachelor of Science (Advanced Mathematics) (Honours Class II-A)**, *University of New South Wales, Australia*
2015–2017

Thesis: **Diffusion of Proteins on Cell Membranes** with Professor Adelle Coster as supervisor.

Honours research involved:

- Modelling protein motion with partial differential equations on a variety of manifolds.
- Running a high-level simulation on a cluster computer program.

Courses include:

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| ○ Fluids, Oceans and Climate | ○ Computational Mathematics |
| ○ Physics | ○ Mathematical Modelling |
| ○ Atmosphere and Ocean Dynamics | ○ Computing |
| ○ Mathematical Biology | ○ Mathematical Computing |
| ○ Differential Equations | ○ Several Variable Calculus |
| ○ Probability and Stochastic Processes | ○ Linear Algebra |
| ○ Ergodic Theory | ○ Theory of Statistics |
| ○ Applied Functional Analysis | ○ Topology and Differential Geometry |
| ○ Linear Models | ○ Information, Codes and Ciphers |
| ○ Complex Analysis | ○ Discrete Mathematics |

2006–2011 **Higher School Certificate**, *Patrician Brothers' College, Fairfield*, Australia, ATAR: 90.70

Computational Literacy and Scientific Programming

Languages & Tools

Proficient Julia, L^AT_EX, Visual Studio Code, Git, Matlab, GitHub, Word, Excel, PowerPoint
Competent C++, Visual Studio, Python

Interests and Skills

Piano Performance

- Australian Music Examinations Board: 8th Grade Practical.
- Australian Music Examinations Board: 4th Grade Theory.
- International Convention Centre, audience of 8000, accompanying a professional violinist, 25 minute performance.
- Ryde Eisteddfod Inc. Competition, 1st Place.
- Numerous accompaniments for vocalists, instrumentalists, and choirs.

Academic Interests

- Julia programming language contribution
- Scientific machine learning
- Atmospheric science

Other Interests, Skills, and Experiences

- Electric Skateboarding
- Surfing
- Snowboarding
- Religious Service (Mission: 2013–2015)
- Escape Rooms
- Rhythm Games
- Puzzles
- Typing Speed: 83 WPM

References

Profession

Patrick Cooper
Patrick.Cooper@thalesgroup.com.au

Academia

Prof. Adelle Coster
A.Coster@unsw.edu.au

Musicianship

Adam Aalders
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Personal

Heisun Ma
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