

Gerald Huang

Curriculum Vitae

Website: huanggerald.com

– Research Interests –

Algorithms (parameterised, exact, approximation, lower bounds), computational geometry and topology, complexity theory, combinatorics (algebraic, enumerative, extremal), combinatorial optimisation, number theory.

– Education –

2018 – 2024

University of New South Wales

B. Sc. in Computer Science with Honours, B. Sc. in Mathematics (Pure Mathematics) with Distinction

- **Supervisor:** Serge Gaspers.
- UNSW Taste of Research Scholar, 2023.

– Publications –

Research

Each *published* paper can be accessed via the link if viewing on a desktop; they can also be accessed via my [website](http://huanggerald.com).

- [1] Quantum Algorithms for Steiner Trees. With Serge Gaspers. 2023.
- [2] Implementation and Analysis of Quantified Boolean Formula Encodings for Planning and Verification Problems. With Abdallah Saffidine. 2022 – 2023.

Books

Books that I have either released or are in the process of being released. Chapter preprints are available on my [website](http://huanggerald.com).

- [1] *An Invitation to Algorithm Design and Analysis*. 1st edition, 2024.
- [2] *An Invitation to Combinatorics*. 1st edition, Springer Undergraduate Texts in Mathematics and Technology, 2024.

– Teaching –

The rating (out of 6.0) comes from the students' evaluation of the instructor quality throughout the course. Undergraduate teaching is done through tutorials. Teaching is separated by university.

University of New South Wales

Term	Course number and title	Rating (where applicable)
Term 3, 2023	COMP4418: Knowledge Representation and Reasoning	N/A

Term 3, 2023	COMP2521: Data Structures and Algorithms	
Term 3, 2023	Mathematics Drop-in Centre	N/A
Term 2, 2023	COMP9900: Information Technology Project	6.0 / 6.0
Term 2, 2023	COMP3900: Computer Science Project	5.25 / 6.0
Term 2, 2023	COMP3153: Algorithmic Verification	5.48 / 6.0
Term 2, 2023	COMP3121: Algorithms and Programming Techniques	5.31 / 6.0
Term 2, 2023	Mathematics Drop-in Centre	N/A
Term 1, 2023	COMP9101: Design and Analysis of Algorithms	5.08 / 6.0
Term 1, 2023	COMP4141: Theory of Computation	5.63 / 6.0
Term 1, 2023	COMP3821: Extended Algorithms and Programming Techniques	5.51 / 6.0
Term 1, 2023	COMP3121: Algorithms and Programming Techniques	5.48 / 6.0
Term 1, 2023	Mathematics Drop-in Centre	N/A
Term 3, 2022	COMP9900: Information Technology Project	5.75 / 6.0
Term 3, 2022	COMP9101: Design and Analysis of Algorithms	N/A
Term 3, 2022	COMP4418: Knowledge Representation and Reasoning	N/A
Term 3, 2022	COMP3121: Algorithms and Programming Techniques	N/A
Term 3, 2022	Mathematics Drop-in Centre	N/A
Term 2, 2022	COMP9101: Design and Analysis of Algorithms	N/A
Term 2, 2022	COMP3153: Algorithmic Verification	5.40 / 6.0
Term 2, 2022	COMP3121: Algorithms and Programming Techniques	N/A

University of Sydney

Semester	Course number and title	Rating (where applicable)
Semester 1, 2023	COMP3927: Advanced Algorithm Design	N/A
Semester 1, 2023	COMP3027: Algorithm Design	N/A

– Talks and Lectures –

Student Talks

Student talks that come from societies are marked with *, whilst student talks that come from conferences are marked with ○.

[1] [*On the Transcendence of \$e\$*](#) *, UNSW Mathematics Society, June 2023.

[2] [*When Combinatorics and Flow Networks Intersect*](#)*, UNSW Computer Science and Engineering Society, UNSW Competitive Mathematics and Programming Society, March 2023.