Michael Law — Curriculum Vitae

Note: links may not be clickable in some PDF viewers. All of them can be accessed from my website (link below).

Personal

Website: https://mike-law.github.io/
Email: mike.law0616@gmail.com
Languages: English (native), Cantonese (native), Mandarin (reading/listening only)
Citizenship: Australia and Hong Kong

Education

2022–present, Massachusetts Institute of Technology, Cambridge, MA, USA.
Doctor of Philosophy in Mathematics.

2021, Australian National University, Canberra, Australia.
Bachelor of Mathematical Sciences (Honors), GPA 7.00/7.00.

2018–20, University of Melbourne, Melbourne, Australia.
Bachelor of Science (Mathematics and Statistics), weighted average 94/100.

Research Experience

2021, Australian National University (honors project)
Uniqueness of tangent flows in mean curvature flow, supervised by Prof. Ben Andrews. My thesis details some recent progress in mean curvature flow, with a focus on geometric Łojasiewicz inequalities and uniqueness of blowup limits. [link to thesis]

2020–21, Australian Mathematical Sciences Institute
Topological phases in quantum systems, supervised by Dr. Thomas Quella. Using representation theoretic and computer algebraic tools, I looked at symmetry-protected topological phases in the q-deformed AKLT model. The results of this research are being prepared for publication. [link to report]

2019–20, University of Melbourne
Label-noise generative adversarial networks, supervised by Dr. Mingming Gong. I designed, implemented and experimented with image generation models using `PyTorch`. [link to report]

Academic Awards

2021, ANU Mathematical Sciences Institute Honors Scholarship
Merit scholarship (value: AUD 5,000)

2020–21, Australian Mathematical Sciences Institute Vacation Research Scholarship
To conduct summer research (AUD 2,000)

2020, Dixson Prize for Pure Mathematics
Top scorer in third year pure mathematics (AUD 430)

2019–20, University of Melbourne Vacation Research Scholarship
To conduct summer research (AUD 2,000)

2019, Maurice H. Belz Prize in Statistics
Top scorer in the subjects *Probability* and *Statistics* (AUD 410)

2018 & 2020, University of Melbourne Dean's Honors
Top 3% of students faculty-wide (ineligible for the 2019 award due to program transfer)

2018–20, University of Melbourne Chancellor's Scholarship
Merit scholarship (full tuition + AUD 10,000 p.a. for duration enrolled)

Talks

Gauge Theory and Symplectic Geometry, ANU, 2021. *The Chern–Weil construction.*
ANU MSI Honors Conference, 2021. *Uniqueness of tangent flows in mean curvature flow.* [slides]
ANU MSI Honors Conference, 2021. *Singularities in the mean curvature flow.* [slides]
AMSIConnect Student Conference, 2021. *Topological phases in quantum systems with quantum group symmetries.* [slides]
University of Melbourne, 2020. *Label-noise robust twin auxiliary classifier GANs.* [slides]

Work and Volunteering

2021–2022, Teaching Assistant, Australian National University.
I tutored ∼40 students per semester in MATH1005 (Discrete Mathematical Models) and MATH1013 (Mathematics and Applications 1). I gave weekly workshops and graded assignments.

2018–20, Mentor, The Institute for Enquiring Minds.
I volunteered to teach mathematics to high school students from financially disadvantaged backgrounds, after school on a one-to-one basis.

2017–20, Tutor, self-employed.
I delivered over 600 hours of tutoring in high school math, physics and economics.

2018–19, Business Analyst Intern, SW Global Consulting Ltd.
I conducted due diligence to advise clients on investment decisions.

Computer Skills

Proficient: Python, LaTeX
Intermediate: C, Mathematica
Basic: Java, R & RStudio