

# Apivich Hemachandra (Kaotoo)

## PhD Student in Computer Science

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*This CV was last updated on January 18, 2024. A more updated version may be found on <https://apivich-h.github.io/cv/cv.pdf>.*

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## Education

**2021 - Present, Graduate Studies (PhD), School of Computing**

**National University of Singapore, Singapore**

- Under supervision of See-Kiong Ng and Bryan Low Kian Hsiang.
- Research area on deep active learning, physics-informed machine learning, and applications of kernel methods for neural networks.

**2016 - 2020, B.Sc. in Physics**

**Mahidol University International College (MUIC), Thailand**

- Cumulative GPA of 3.99 out of 4.00 (First-Class Honours).
  - Completed with minors in Computer Science and Mathematics.
  - Received Academic Achievement Awards in 2017, 2018 and 2019.
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## Publications

*(Note: † denotes equal contribution.)*

1. **PINNACLE: PINN Adaptive ColLocation and Experimental points selection.**  
Gregory Kang Ruey Lau<sup>†</sup>, Apivich Hemachandra<sup>†</sup>, See-Kiong Ng, Bryan Kian Hsiang Low.  
*ICLR 2024 Spotlight Presentation.* Acceptance rate: 5%.
  2. **Training-Free Neural Active Learning With Initialization-Robustness Guarantees.**  
Apivich Hemachandra, Zhongxiang Dai, Jasraj Singh, See-Kiong Ng, Bryan Kian Hsiang Low.  
*ICML 2023.* Acceptance rate: 27.9%.
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## Work Experience

**August 2020 - June 2021, Data Analyst, The Gang Technology Co. Ltd., Thailand**

- Work on projects outsourced from PTTEP (a Thai petroleum extraction firm), that involves data analytics and decision making under economic, physical or geographical constraints.
- Also have other short-term projects with the company during my 3rd and 4th year of undergrad.

**August 2019, Research Internship, Vidyasirimedhi Institute of Science and Technology, Thailand**

- Worked on project focusing on active data selection for NLP context, which was eventually incorporated into my senior thesis.
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## Teaching Experience

**Teaching Assistant at School of Computing, NUS**

- CS3244 Machine Learning (S1, AY2023-24)
- CS3264 Foundations of Machine Learning (S2, AY2022-23; S2, AY2023-24)

**Teaching Assistant at MUIC**

- ICCS200 Data Structures and Algorithms (T3, AY2018-19; T1, AY2019-20)
- ICPY132 Principles of Physics (T1, AY2017-18)

## Awards and Competitions

### August 2023, Recipient of SoC Research Achievement Award

- Awarded for research achievements in Semester 2 AY2022-23.

### June 2023, Recipient of SoC Teaching Fellowship Scheme

- Awarded to five CS PhD students at SoC with excellent past performances as a tutor.

### April 2018, Winner of FameLab Thailand

- A competition hosted by British Council Thailand where competitors gave a three-minute presentation about a scientific topic of their choice to a general audience.
  - Also was selected as the representative for Thailand at FameLab International 2018 at Cheltenham Science Fair, United Kingdom.
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## Skills

### Mathematics Courses

Multivariate Calculus, Linear Algebra, Real Analysis, Discrete Maths, Statistics.

### Computer Science Courses

Data Structures & Algorithms, Advanced/Contemporary Algorithms, Machine Learning, Numerical Methods, Introduction to Optimisation, Object-Oriented Concepts.

### Programming

Experiences with writing projects in Python, Java, C++, and Julia.

### Language

Thai (native speaker), English (fluent).

### Standardised Scores

- TOEFL iBT: 114 out of 120 (taken in Jan 2020),
  - IELTS: 8.5 out of 9.0 (taken in Jan 2018),
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## Personal Interests

### Video Making - RandomMathsInc

- URL: <https://www.youtube.com/c/RandomMathsInc>
  - A channel with around 12k subscribers (as of January 2024), which present topics in mathematics, physics and computer science often in entertaining ways.
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