Muhammad Ayaz Dzulfikar

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Education

National University of Singapore, PhD in Computer Science — Aug 2021 – Present

- Advisor: Seth Gilbert
- Current GPA: 4.92/5.0
- Received NUS Research Scholarship
- Research interests: *Distributed Algorithm*

Universitas Indonesia, Bachelor of Computing — Aug 2015 – Aug 2019

- GPA: 3.94/4.0
- Got an invitation to study at Fakultas Ilmu Komputer UI without an entrance test

Work Experience

Software Engineer, Shopee – Singapore — Aug 2019 – Aug 2021

- Worked on microservices that manage item's price and stocks
- Designed and developed a revamp of Shopee's item stock structure into a more fine-grained structure

Research Intern, Technische Universität Dresden – Dresden, Germany — Jan 2019 - June 2019

- Mentor: Johannes Klaus Fichte
- Prepared the competition material and judging the submissions for Parameterized Algorithms and Computational Experiments 2019

Honors & Awards

NUS School of Computing Research Achievement Award — 2025

- Awarded to PhD students with outstanding research performance over the past academic year

NUS School of Computing Teaching Fellowship Award — 2023

- Awarded to PhD students with outstanding teaching performance

DISC Best Student Paper Award — 2022

- For the paper *Byzantine Consensus is $\Theta(n^2)$: The Dolev-Reischuk Bound is Tight even in Partial Synchrony!*

ICPC World Finalist — 2019

- Ranked 21st from 120+ teams from all over the world in the International Collegiate Programming Contest (ICPC) World Finals

IOI Bronze Medalist — 2015

- Ranked 112th from 300+ contestants from all over the world in the International Olympiad in Informatics (IOI) as one of the four students representing Indonesia

Publications

(* Unless stated otherwise, the author lists are sorted alphabetically.)

1. Pierre Civit, **Muhammad Ayaz Dzulfikar**, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel Vidigueira, Igor Zablotchi. *Partial Synchrony for Free: New Upper Bounds for Byzantine Agreement*. Symposium on Discrete Algorithms (SODA), 2025.

2. Pierre Civit, **Muhammad Ayaz Dzulfikar**, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel Vidigueira, Igor Zablotchi. *Efficient Signature-Free Validated Agreement*. International Symposium on Distributed Computing (DISC), 2024.

3. Pierre Civit, **Muhammad Ayaz Dzulfikar**, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel

Vidigueira. *DARE to Agree: Byzantine Agreement With Optimal Resilience and Adaptive Communication*. ACM Symposium on Principles of Distributed Computing (PODC), 2024.

4. Karen Frilya Celine, **Muhammad Ayaz Dzulfikar**, Ivan Adrian Koswara. *Egalitarian Price of Fairness for Indivisible Goods*. Pacific Rim International Conference on Artificial Intelligence (PRICAI), 2023.
5. Pierre Civit, **Muhammad Ayaz Dzulfikar**, Seth Gilbert, Rachid Guerraoui, Jovan Komatovic, Manuel Vidigueira. *Byzantine Consensus is $\Theta(n^2)$: The Dolev-Reischuk Bound is Tight even in Partial Synchrony!*. International Symposium on Distributed Computing (DISC), 2022.
6. **Muhammad Ayaz Dzulfikar**, Johannes Klaus Fichte, Markus Hecher. *The PACE 2019 parameterized algorithms and computational experiments challenge: the fourth iteration*. International Symposium on Parameterized and Exact Computation (IPEC), 2019.

Teaching

Teaching Assistant, National University of Singapore – Singapore 2022 - 2024

- CS2040/CS2040C/CS2040S Data Structures and Algorithms
  - Taught tutorials, prepared and graded exams
  - Highest teaching score: 4.6/5.0
- CS2109S Introduction to AI and Machine Learning
  - Graded and gave feedback to weekly assignments

Services

Host Scientific Committee, IOI – Indonesia 2022

- Prepared the competition materials in the International Olympiad in Informatics (IOI) 2022

Judge, ICPC Asia Jakarta Regional – Indonesia 2019 - 2024

- Authored several problems and prepared the competition materials in the ICPC Asia Jakarta Regional

Scientific Committee, IA-TOKI – Indonesia 2016 - 2019

- Coached Indonesian students in preparation for IOI

Additional Informations

Languages/Technologies: C++, Java, Python, Golang