

Murtaza Rangwala

Email: murtaza.rangwala [at] student.unimelb.edu.au **Website:** murtaza-hatim.com

Education

- **PhD in Federated Learning**
Supervisors: Prof Rajkumar Buyya, Prof Richard Sinnott
University of Melbourne, Australia
PhD in Federated Learning (Privacy, Security & Distributed Systems)
June 2024 - Present
- **Bachelor of Software Engineering - First Class Honours**
MINOR: Cybersecurity
Monash University, Malaysia
WAM: 85.36/100 (Dean's Honours List)
October 2018 - July 2022

Work and Internship Experience

- **Software Engineering Analyst – Goldman Sachs** (August 2022 – March 2024)
 - Implemented technical architecture for a thematic portfolio management system with distributed services, custom indexing algorithms, and real-time data processing capabilities
 - Engineered AI agent-based automation for order execution workflows, reducing process complexity through intelligent task delegation and parallel execution pipelines
- **Summer Analyst – Goldman Sachs** (June 2021 – August 2021)
 - Developed system validation framework for complex derivatives processing with statically typed constraints and runtime verification protocols, increasing fault detection efficacy
- **Software Architect Intern – Photobook Worldwide** (July 2020 – December 2020)
 - Contributed to e-photobook system architecture with focus on scalable rendering engine and distributed content delivery infrastructure
 - Integrated web and mobile platforms with downstream systems through asynchronous middleware, implementing transactional consistency between disparate production systems

Teaching and Research Experience

- **Technical Instructor – Goldman Sachs**
Goldman Sachs Options Advisory Services (January 2023 – March 2024)
 - In-charge of developing technical curriculum and conducting knowledge transfer sessions for Graduate Analyst batches of 2023 and 2024
 - Responsible for providing one-on-one mentorship to new hires working in the options advisory space.
- **Undergraduate Researcher – Monash University**
Peer to Peer Energy Trading - Development of a Blockchain Platform (April 2021 - June 2021)
 - Spearheaded the development of a peer-to-peer blockchain-based energy trading platform in collaboration with Tenaga Nasional, Malaysia's largest electricity supplier
 - The project concluded with successful load tests performed on a PoC with 30 general nodes and 2 authority nodes
- **PASS Leader – Monash University**
FIT2099: Object Oriented Design and Implementation (February 2020 – November 2020)
 - Facilitated two study sessions a week for two semesters
 - Conducted one-on-one consultation sessions

Publications

- **M. Rangwala**, R. Buyya. "*TrustMesh: A Blockchain-Enabled Trusted Distributed Computing Framework for Open Heterogeneous IoT Environments*". Proceedings of the 22nd IEEE International Conference on Software Architecture (ICSA 2025). CORE A.
- ICSA Working Group, including **M. Rangwala**. "*Quality Attributes in the Age of AI*". Position paper resulting from the International Conference on Software Architecture working session, expected publication as part of conference proceedings.

Supervision, Leadership, and Service

- **Supervised Internships at Goldman Sachs**
 - 2023. Prashanth Sriram S. *Developing an options pricing tool based on the Black-Scholes model*.
 - 2023. Priyanshu Agrawal. *Engineering a regulatory compliance platform for bulk equity orders*.
- **Peer Reviewer:** IEEE/ACM International Conference on Utility and Cloud Computing 2024, IEEE/ACM Transactions on Networking (Q1, CORE A*).
- **Student Demonstrator:** University of Melbourne Open Day 2024
- **Panelist:** Goldman Sachs Forum for New Analyst Programmers 2023
- **President:** Engineers Without Borders (EWB) Student Chapter, Monash University (2021)
- **Elected Representative:** School of Engineering, Monash University Student Association (2020)
- **Founding Member:** Student Leaders Network, Monash University (2020-2022)

Awards & Scholarships

- **Melbourne Research Scholarship (2024)**
University of Melbourne, Australia
- **Monash High Achiever Award (2018)**
Monash University, Malaysia
- **Monash Industry Based Learning Scholarship Programme (2020)**
Monash University, Malaysia & Photobook Worldwide, Malaysia
- **Dean's Honours List (2019-2021)**
Monash University, Malaysia
Awarded in recognition of outstanding academic performance, representing the top 5% of students enrolled in the University's Bachelors of Engineering programme.

References

- **Prof. Rajkumar Buyya**
rbuyya [at] unimelb.edu.au | +61-(0)431-799-078
University of Melbourne, Australia
- **Prof. Richard Sinnott**
rsinnott [at] unimelb.edu.au | +61-(0)435-964-844
University of Melbourne, Australia
- **Manoj Munde**
manoj.munde [at] gs.com | +1(201)917-0512
Goldman Sachs, USA