PERSONAL INFORMATION	**Janaka Brahmanage** Contact: (+65) 84517953 — janakat.2022@phdcs.smu.edu.sg Website: janakact.github.io LinkedIn: janakachathuranga

RESEARCH INTERESTS

Safe Reinforcement Learning, Imitation Learning, Alternative Transformer Architectures, Constraint Satisfaction and Optimization, Functional Programming, Category Theory

EDUCATION

School of Computing and Information Systems,
Singapore Management University, Singapore.   *Aug, 2022 - Present*
PhD Candidate

· Supervisor: Prof. Akshat Kumar
· Research Topic: Constrained Reinforcement Learning, Imitation Learning

University of Moratuwa, Sri Lanka.   *Jan, 2014 - Jan, 2018*
B.Sc. Eng (Hons.) in Computer Science & Engineering

· Class: First Class
· Cumulative GPA: **3.99**/4.2
· Rank: **17th** (out of 125 Computer Science & Engineering graduates)
· Electives: Theory of Computing, Programming Languages, Intelligent Systems, Image Processing, Formal Methods in Software Engineering, Digital Photography, Advanced Algorithms, Concurrent Programming, Machine Learning, Data Mining & Information Retrieval, Distributed Systems, Compiler Design, Bioinformatics

Royal College, Colombo, Sri Lanka.   *Jun, 2004 - Aug, 2012*
General Certificate of Education Advanced Level in Physical Science stream (University Entrance)

· Rank: **42nd** (out of ∼40,000)
· Rank: **5th** in Colombo district

General Certificate of Education Ordinary Level (Junior High School)

· Passed with High Distinctions 8 subjects (8 'A' s and 1 'B')

EXPERIENCE

School of Computing and Information Systems
Singapore Management University, 81 Victoria Street, Singapore.   *Nov, 2020 - July, 2022*
Research Engineer
Develop algorithms for bus frequency optimization and perform data mining on Singapore's public transportation system.

Stack Technologies (Pvt) Ltd., 187 Ward Pl, Colombo 01, Sri Lanka.   *Oct, 2019 - Nov, 2021*
Co-founder / Software Engineer
Responsible for software design, development, and leading the development team.

Hybriteq Solutions (Pvt) Ltd., 430/5, Thalahena, Malambe, Sri Lanka. *Aug, 2018 - Oct, 2019*
Co-founder / Software Engineer
Responsible for software design, development, and leading the development team.

WSO2 Inc., 20 Palm Grove, Colombo, Sri Lanka.   *Aug-Dec, 2016*
Engineering Intern
Successfully completed a software engineering internship of six months.

PUBLICATIONS   **Full Papers** Pham, Q. A., **Brahmanage, J. C.**, Mai, T. A., & Kumar, A. (2025, October 29). IOSTOM: Offline Imitation Learning from Observations via State Transition Occupancy Matching. The Thirty-ninth Annual Conference on Neural Information Processing Systems (NeurIPS-2025). (**Accepted**)

2025, Pham, A.Q., **Brahmanage, J. C.**, Kumar, A. ShipNaviSim: Data-Driven Simulation for Real-World Maritime Navigation. The Twenty-Fourth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2025). [pdf]

2025, **Brahmanage, J. C.**, Ling, J., & Kumar, A. Leveraging Constraint Violation Signals For Action Constrained Reinforcement Learning. The Thirty-ninth Annual AAAI Conference on Artificial Intelligence(AAAI-2025). (**Oral**) [link]

2023, **Brahmanage, J. C.**, Ling, J., & Kumar, A. FlowPG: Action-constrained Policy Gradient with Normalizing Flows. Thirty-seventh Conference on Neural Information Processing Systems(NeurIPS-2023). [pdf]

2022, **Brahmanage, J.**, Kandappu, T., & Zheng, B. (2022). A data-driven approach for scheduling bus services subject to demand constraints. IEEE Transactions on Knowledge and Data Engineering (TKDE) [pdf]

2018, **Brahmanage, J.**, Ediriweera, S., Hasantha, R., Munasinghe, P., & Ranathunga, S. (2018). Annotating opinions and opinion targets in student course feedback. Proceedings of the Eleventh International Conference on Language Resources and Evaluation (LREC-2018). [pdf]

2017, **Brahmanage, J.**, Ediriweera, S., Munasinghe, P., Hasantha, R., & Ranathunga, S. (2017). Opinion target extraction for student course feedback. Proceedings of the 29th Conference on Computational Linguistics and Speech Processing (ROCLING-2017), 295–307. [pdf]

Demo Papers
2023, **Brahmanage, J.**, Kandappu, T., & Zheng, B. (2023). MetroWatch: A predictive system to estimate travel attributes using smart card data. 2023 IEEE 39th International Conference on Data Engineering (ICDE-2023), 3607–3610. [link]

PROJECTS   **Budget Conditioned Action Pruning** *(Research Project)*   *2023/24*
Singapore Management University
Proposed pruning based on the remaining budget during Q-value learning for safe offline RL tasks.

GFlow-RL *(Research Project)*   *2023/24*
Singapore Management University
Proposed the use of Generative Flow Networks to approximate Q-value distributions in high-dimensional action spaces for reinforcement learning.

Action Constrained RL with Normalizing Flows *(Research Project)*   *2020/21*
Singapore Management University
Proposed an algorithm that can utilize generative models to safely explore state space in Reinforcement Learning.

Travel time inference of MRT network *(Research Project)*   *2020/21*
Singapore Management University
Developed a solution to infer the travel time statistically within the MRT network using Automatic Fare Collection(AFC) data.

Automatic Summarization of Student Feedback *(Final Year Thesis Project)*   *2017/18*

University of Moratuwa.
Developed a methodology to summarize general text feedback. We developed a simple annotation scheme, a corpus, and a methodology to perform general feedback summarization.

MongoDB Support for Apache Tajo *2016*
Google Summer of Code 2016 Contributor The project is to add a MongoDB storage plugin to tajo-storage.

OPEN SOURCE CONTRIBUTIONS	**React Native Floating Bubble** (218+ stars)	[link]
	Sinhala Unicode Converter (19+ stars)	[link]
	Maritime Simulator: Data-Driven Maritime Navigation Simulation	[link]

ACADEMIC SERVICES **Reviewer:** AAAI, NeurIPS, ICAPS, JAIR
Volunteer: GYSS 2026 (Liaison officer), SRSC 2025 (Moderator), IEEE CAI 2024 (Volunteer)

HONORS AND AWARDS

· Presidential Doctoral Fellowship - AY2025/26
  · School of Computing and Information Systems, Singapore Management University.

· Presidential Doctoral Fellowship - AY2024/25
  · School of Computing and Information Systems, Singapore Management University.

· NASA International Space Apps 2018
  · World Finalist (best five teams in the world) representing Sri Lanka.
  · Out of 25000+ participants
· Mora Ventures 2.0 (2017)
  · Winner.
  · Our product 'Smart Bat' became 1st out of 50 startups from University of Moratuwa
· Hack The North 2017, Canada
  · World Finalist - Out of 72 countries

· IEEEXtreme Programming Competition 9.0 - Oct 2015
  · National Rank 4   · Global Rank 93

· Sri Lankan Astronomy and Astrophysics Olympiad Competition
  · Silver Medal

· National School Software Competition
       ·Merit Award

· Robotics Competition Organized by Open University Sri Lanka 2015
       ·**2nd** Place

FAMILIAR PROGRAMMING LANGUAGES AND FRAMEWORKS

Python, C++, TypeScript, JavaScript, Haskell, Java, Pandas, NumPy, Scikit-learn, JAX, PyTorch, TensorFlow