

ARAMBAM JAMES SINGH

Department of Computer Science, National University of Singapore

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EDUCATION

- Singapore Management University** *Jan 2017 - July 2021*
School of Computing & Information Systems
PhD in Computer Science
- National Institute of Technology Durgapur, India** *Aug 2012 - June 2014*
Department of Computer Science,
Master of Technology(M.Tech) in Information Technology
(Gold Medalist)
- National Institute of Technology Silchar, India** *July 2006 - June 2010*
Department of Electronics & Communication Engineering,
Bachelor of Technology in Electronics & Comm. Engg.

RESEARCH INTEREST

Artificial intelligence and machine learning — reinforcement learning, probabilistic inference, graphical models, mathematical optimization.

EMPLOYMENT

- Research Scientist** *Sep. 2021 - present*
Department of Computer Science,
National University of Singapore
- Research Engineer** *Nov. 2014 - Nov. 2016*
School of Computing & Information Systems
Singapore Management University
Supervisor : Assoc. Prof. Akshat Kumar
- Assistant Software Engineer (Developer),** *Aug. 2010 - July 2012*
Steria India Ltd.

PUBLICATIONS

- **Arambam James Singh**, Akshat Kumar, Hoong Chuin Lau. *Learning and Exploiting Shaped Reward Models for Large Scale Multiagent RL*. Accepted in International Conference on Automated Planning and Scheduling (ICAPS-2021).
- **Arambam James Singh**, Akshat Kumar, Hoong Chuin Lau. *Approximate Difference Rewards for Scalable Multiagent Reinforcement Learning (Extended Abstract)*. Accepted in International Conference on Autonomous Agents and MultiAgent Systems (AAMAS-2021).
- Chaithanya Basrur, **Arambam James Singh**, Arunesh Sinha, Akshat Kumar. *Ship-Gan: Generative Modeling Based Maritime Traffic Simulator (Demo paper)*. Accepted in International Conference on Autonomous Agents and MultiAgent Systems (AAMAS-2021). **(Best Demo Award)**
- **Arambam James Singh**, Akshat Kumar, Hoong Chuin Lau. *Hierarchical Multiagent Reinforcement Learning for Maritime Traffic Management*. In proceedings of International Conference on Autonomous Agents and MultiAgent Systems (AAMAS-2020).

- **Arambam James Singh**, Duc Thien Nguyen, Akshat Kumar, Hoong Chuin Lau, *Multiagent Decision Making For Maritime Traffic Management*. In proceedings of AAAI Conference on Artificial Intelligence (AAAI-2019).
- **Arambam James Singh**, Akshat Kumar, *Graph Based Optimisation For Multiagent Cooperation*. In proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2019).
- **Arambam James Singh**, Akshat Kumar, *Multiagent Coordination Using Graph Structured Mathematical Optimization (Extended Abstract)*. In proceedings of International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2017).
- Akshat Kumar, **Arambam James Singh**, Pradeep Varakantham and Daniel Sheldon, *Robust Decision Making For Stochastic Network Design*. In proceedings of AAAI Conference on Artificial Intelligence (AAAI-2016).
- Poulami Dalapati, **Arambam James Singh** and Animesh Dutta, *Multi-Agent Based Algorithmic Approach for Fast Response in Railway Disaster Handling*. In proceedings of International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT-2015).
- Poulami Dalapati, **Arambam James Singh**, Animesh Dutta and Swapan Bhattacharya, *Multiagent Based Railway Scheduling and Optimization*. In proceedings of Tencon-2014 IEEE Region 10 Conference, Oct 2014.
- **Arambam James Singh**, Poulami Dalapati and Animesh Dutta. *Multi-Agent Based Dynamic Task Allocation*. In proceedings of International Conference on Agents and Multi-agent Systems Technologies and Applications, June 2014.
- **Arambam James Singh**, Deepanwita Das and Sruti Kumari. *A Swarm Based Area Partitioning Technique by Robots With Limited Capabilities and its Simulation*. In proceedings of International MultiConference on Information Processing, July 2014.
- **Arambam James Singh**, Sudipta Acharya and Animesh Dutta. *Agent Based Task Specific Team Formation for Effective Distributed Decision Making*. In proceedings of International Conference on EEE, Computer, Telecommunications and Information Technology (ECTI-CON), May 2013.

AWARDS & HONORS

- Dean's List - 2021, 2020, 2019, School of Computing & Information Systems, Singapore Management University (SMU).
- SMU Presidential Doctoral Fellowship - 2020, 2019.
- Selected to attend Global Young Scientists Summit 2020, event organised by National Research Foundation, Prime Minister's Office, Singapore.
- Student Travel Scholarship to attend International Conference on Autonomous Agents and Multiagent Systems (AAMAS - 2019), at Montreal, Canada.
- Student Travel Scholarship to attend International Summer School on Planning and Scheduling, held in conjunction with International Conference on Automated Planning and Scheduling (ICAPS-2018), at Delft, The Netherlands.
- Fujitsu-SMU Ph.D Student Scholarship - 2017
- Gold Medal from National Institute of Technology Durgapur, West Bengal, India for M.Tech. 2014.
- Scholarship from Ministry of Human Resource Development, Government of India, Fellowship 2012-2014 for pursuing M.Tech(Master).
- Among top 2.1% of Graduate Aptitude Test in Engineering (GATE-2012) in **Computer Science**.

COMMUNITY SERVICE

- Program Committee Member for AAAI-2022, AAAI-2020.
- Local organizing committee for the International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2016, Singapore.

TECHNICAL SKILLS

Languages	Python, Java, C/C++, Julia, Octave
Scientific Packages	PyTorch, TensorFlow, IBM CPLEX, GNU Scientific Libraries (GSL)

TEACHING

Singapore Management University

Teaching Assistant in School of Computing & Information Systems

- Introduction to Artificial Intelligence *IS-448, Fall 2018*

National Institute of Technology Durgapur, India

Teaching Assistant in Department of Computer Science

- Introduction to Information and Coding Theory, *IT-510, Fall 2013*
- Computer Networks Lab, *IT-552, Fall 2013*
- Object Oriented Technology Lab, *IT-652, Fall 2014*