

# Swasti Khurana

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in [LinkedIn](#)

📝 [Medium](#)

🐙 [Github](#)

## EDUCATION

### Vrije Universiteit Amsterdam

Master of Science in Artificial Intelligence

Amsterdam, Netherlands

2024 - ongoing

### Indian Institute of Information Technology Vadodara

Bachelor of Technology in Information Technology

Gandhinagar, India

2018 - 2022

Rank: 1 (Gold medal for academic excellence) | [Certificate](#)

## PUBLICATIONS

### Egalitarian Transient Service Composition in Crowdsourced IoT Environment

Swasti Khurana, Novarun Deb, Sajib Mistry, Aditya Ghose, Aneesh Krishna, Hoa K. Dam

IEEE Transactions on Services Computing 2023 | [link](#)

### Infographics Wizard: Flexible Infographics Authoring and Design Exploration

Anjul Tyagi, Jian Zhao, Pushkar Patel, Swasti Khurana, Klaus Mueller

Computer Graphics Forum - EuroVis 2022 | [link](#)

### An Optimization Ontology for Goal Modelling Frameworks

Krishna Gaur, Raghu Raj Sodani, Akshat Dobriyal, Anuj Pillai, Novarun Deb, Swasti Khurana, Sajib Mistry, Aditya Ghose

Enterprise Design, Operations, and Computing (EDOC) - Intelligent Digital Architecture, Methods, and Services for Industry 4.0 and Society 5.0 (IDAMS) Workshop | [link](#)

## EXPERIENCE

### Research Assistant in collaboration learning for multi-agent RL

Dec 2022 - Aug 2024

Supervisor: Prof. Guillaume Sartoretti | Multi-Agent Robotic Motion Lab | NUS

- o Main focus was to investigate and improve collaboration in multi-agent reinforcement learning.
- o Contributed to the development of a social influence model to understand the level of collaboration among agents in the existing state of the art algorithms.
- o Integrated the QMIX algorithm with the developed model and found the correlation between collaboration and performance on the Starcraft Multi Agent Challenge (SMAC).
- o Briefly explored skill learning in a collaborative manner using the model with limited environment reward and relying on intrinsic signal through the model.

### Bachelor thesis in communication learning in multi-agent RL

Jan 2022 - Aug 2022

Supervisor: Prof. Guillaume Sartoretti | Multi-Agent Robotic Motion Lab | NUS

- o Extended a communication learning algorithm ([FCMNet](#)) to scale it up to 200 agents in a warehouse environment.
- o Validated the original algorithm on hardware with point to point robot navigation task using a turtlebot3 and aruco markers for localization.

### Summer Research Intern in bandit algorithms

May 2021 - Jul 2021

Supervisor: Prof. Sumit Darak | Algorithms to Architecture Lab | IIIT Delhi

- o Implemented various multi-player multi-arm bandit algorithms
- o Algorithms included Thompson Sampling and variants of Upper-Confidence Bounds
- o Created an aggregator algorithm for the above-mentioned algorithms that selected the best one for the task

### Summer Research Intern in Reinforcement Learning

Jun 2020 - Jul 2020

Clique | [Certificate](#)

- o Implemented the TD-Gammon algorithm as part of the project
- o Published two blogs on Medium - Exploitation and Exploration in RL and TD-Gammon algorithm ([link here](#))

## CERTIFICATION COURSES

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- o AWS Machine Learning Foundations ([Link to Certificate](#))
- o Intermediate Machine Learning ([Link to Certificate](#))
- o NVIDIA DLI Fundamentals of Deep Learning ([Link to Certificate](#))
- o School of Technology and Computer Science (STCS) Vigyan Vidushi Summer School 2021 at the Tata Institute of Fundamental Research (TIFR) ([Link to website](#))

## BLOGS

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- o Exploitation and Exploration in RL ([Link](#))
- o TD-Gammon Algorithm ([Link](#))
- o Super Store Data Analytics and Visualization ([Link](#))

## SKILLS

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<b>Programming Languages</b>	Python, C/C++, R, SQL
<b>Tools</b>	ROS, Gazebo, LaTeX, Git
<b>Softwares</b>	Tableau, Wireshark, HashSuite, Nmap, Selenium, Archimate, MySQL
<b>Framework &amp; Libraries</b>	Numpy, Pandas, PyTorch, Scikit Learn, Matplotlib, Django

## ACHIEVEMENTS AND EXTRA-CURRICULAR

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### Honors and Awards:

- o GHC (Grace Hopper Celebration) 2021 Student Scholarship recipient by AnitaB.org ([Link to Certificate](#))
- o Secured 4th position in AWS DeepRacer Women's League India 2021. ([Link to Certificate](#))

### Volunteering and Extra-Curricular:

- o Weekly volunteer at Sikh Temple (January 2022 - August 2024)
- o Participant in Letters to a Pre-Scientist (science outreach) and awarded for Exceptionally Engaging Letters ([Link to Certificate](#))
- o Silver medalist in 3000m race at Inter IIIT Sports meet, 2020 ([Link to Certificate](#))
- o Basketball Silver medal in Inter-College Games (ICG) at NUS.