

KARUSH SURI

[LinkedIn](#) ◊ [Google Scholar](#) ◊ [GitHub](#)

Homepage- karush17.github.io

Email- karush.suri@mail.utoronto.ca

RESEARCH INTERESTS

Karush is a Deep Learning Researcher at Huawei Noah's Ark Lab in Toronto. His research focuses on developing intelligent learning systems which can establish a balance between the theoretical uncertainty and practical viability of sequential decision-making and inference. Through this lens, Karush studies the computational principles underlying Energy-based Reinforcement Learning when constrained with limited and safe interactions.

EDUCATION

University of Toronto

Master of Applied Science (M.A.Sc)

2019 - 2021

Toronto, Canada

- Department: Electrical & Computer Engineering
- Thesis: Deep Hierarchical Reinforcement Learning ([link](#)) ([video](#))
- Advisors: Dr. Yuri Lawryshyn & Dr. Konstantinos Plataniotis
- GPA: 4/4

Amity University

Bachelor of Technology (B.Tech)

2015 - 2019

Delhi, India

- Department: Electronics & Communication Engineering
- Thesis: Application of Deep Learning & Game Theory for Sign Language Recognition using Wearable Sensors ([link](#))
- Advisor: Dr. Rinki Gupta
- GPA: 8.78/10

SCHOLARSHIPS & AWARDS

University of Toronto, Canada

Electrical & Computer Engineering Fellowship

2020-2021

Edward S. Rogers Graduate Scholarship

2019-2020

Amity University, India

Best in Technical Innovation Award (class of 2015-2019)

2019

Most Frugal Innovation Award

2018

100% Curriculum Merit Scholarship

2015

Others

Young Achievers Award

2015

RESEARCH APPOINTMENTS

Huawei Noah's Ark Lab

Deep Learning Researcher

2021 - Present

Toronto, Canada

- Advisors: Dr. Jun Luo & Dr. Mohsen Rohani
- Project: Graph Reinforcement Learning for Logic Synthesis

Robot Vision & Learning (RVL) Lab, University of Toronto*Visiting Researcher*

2021 - Present

Toronto, Canada

- Advisor: Dr. Florian Shkurti

- Project: Overconservatism in Offline Reinforcement Learning

Borealis AI*Thesis Researcher*

2019 - 2021

Toronto, Canada

- Advisor: Xiao Qi Shi

- Project: Deep Hierarchical Reinforcement Learning

CMTE, University of Toronto*Graduate Research Assistant- Reinforcement Learning*

2019 - 2021

Toronto, Canada

- Advisors: Dr. Yuri Lawryshyn & Dr. Konstantinos Plataniotis

- Project: Deep Hierarchical Reinforcement Learning

Signal Processing Lab, Amity University*Undergraduate Research Assistant- Deep Learning*

2017 - 2019

Delhi, India

- Advisor: Dr. Rinki Gupta

- Project: Application of Deep Learning & Game Theory for Sign Language Recognition using Wearable Sensors

PUBLICATIONS

- Karush Suri, Xiao Qi Shi, Konstantinos N. Plataniotis, Yuri A. Lawryshyn, “*Maximum Mutation Reinforcement Learning for Scalable Control*”, DRLW NeurIPS 2020. ([website](#)) ([arXiv](#))
- Karush Suri, Rinki Gupta, “*Continuous Sign Language Recognition from Wearable IMUs using Deep Capsule Networks and Game Theory*”, Computers And Electrical Engineering, Elsevier, Vol. 78, 2019. ([arXiv](#)) ([code](#))
- Karush Suri, Rinki Gupta, “*Transfer Learning for sEMG-based Hand Gesture Classification using Deep Learning in a Master- Slave Architecture*”, IEEE IC3I 2018 ([oral](#)). ([arXiv](#)) ([code](#))

INVITED TALKS & TUTORIALS

- *Explaining Conservatism in Offline Learning*, RVL, University of Toronto 2021
- *Graph Reinforcement Learning for Logic Synthesis*, Huawei Technologies 2021
- *Facial Emotion Recognition: A Tutorial*, ECE1512, University of Toronto 2021
- *Deep Hierarchical Reinforcement Learning*, Borealis AI 2020
- *Deep Reinforcement Learning: A Tutorial*, CMTE, University of Toronto 2020
- *Capsule Networks for Gesture Recognition*, Amity University 2019

INTERNSHIP EXPERIENCE**EdAuthority***Content Management Intern- Data Science*

2018-2019

Delhi, India

- Edited blog posts on data science concepts and their extensions to the education industry.
- Backend website management and development of scalable digital platform.

Airtel

2018

*Summer Engineering Intern**Delhi, India*

- Project entitled “Fundamentals of Network Communication”.

- Calibrated network interface cards and connectivity sensors for throughput handling.

Reliance Jio

2017

*Summer Engineering Intern**Delhi, India*

- Project entitled “Excel Data Processing Automator using Python Programming”.

- Automated excel data management for spreadsheet handling and cell-to-cell logging.

Sony

2016

*Summer Engineering Intern**Delhi, India*

- Project entitled “LCD Television Systems and BRAVIA Engine Applications”.

- Programmed BRAVIA engine cards for video processing and image analysis.

TEACHING ASSISTANTSHIPS

- | | |
|---|---------------|
| · ECE1512H <i>Digital Image Processing and Applications</i> , University of Toronto | (Winter 2021) |
| · CSC104H <i>Computational Thinking</i> , University of Toronto | (Winter 2021) |
| · CSC2209H <i>Computer Networks</i> , University of Toronto | (Fall 2020) |
| · CSC458H <i>Computer Networking Systems</i> , University of Toronto | (Fall 2020) |
| · CSC258H <i>Computer Organization</i> , University of Toronto | (Winter 2020) |
| · MATH <i>Integral Calculus</i> , Sai Kripa Orphanage | (Summer 2016) |
| · MATH <i>Numerical Differentiation</i> , Sai Kripa Orphanage | (Summer 2016) |
| · MATH <i>Linear Algebra</i> , Sai Kripa Orphanage | (Summer 2016) |

ORGANIZATIONAL WORK & SERVICES

- | | |
|---|------|
| Reviewer, <i>NeurIPS Workshops</i> | 2021 |
| Stage Committee Head, <i>6th IEEE SPIN</i> | 2019 |
| Coordinating Committee, <i>5th IEEE SPIN</i> | 2018 |
| Volunteering Committee, <i>4th IEEE SPIN</i> | 2017 |
| Lab Assistant, <i>Signal Processing Lab</i> | 2019 |

TECHNICAL SKILLS**Languages-** Python, Lua, HTML, C, C++, Assembly, Markdown, MATLAB, LATEX.**Frameworks-** PyTorch, Tensorflow, torch7, Numpy, Gym, MuJoCo, Flask, ROS.**Platforms-** Amazon Web Services, Google Cloud Platform, Git.