Rishav Chourasia

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Transaction Risk and Management S-Team
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Education

Indian Institute of Technology, Guwahati
B.Tech., Computer Science and Engineering, 2018.
CPI: 9.26/10

Delhi Public School, Bokaro
Central Board of Secondary Education(CBSE), 2014.
Percentage: 91.6%

De Nobili School, C.M.R.I, Dhanbad
Indian Certificate of Secondary Education(ICSE), 2012.
Percentage: 96.2%

Dissertation

"Optimal Swarm RL: An Improved Deep Exploration Strategy"
Unification of few Ensemble Reinforcement Learning algorithms into a class called Swarm RL and proposal of regret optimal algorithm in the class resulting in enhanced deep-exploration.

Experiences

Max Planck Institute for Software Systems, Germany
Research Fellow, Winter 2018
Researching ensemble learning in Bandit and RL setting.

Amazon Bangalore
Software Development Engineer, Since July 2018
Software Development Intern, Summer 2017
Carrying out DevOps as part of the Transaction Risk Management S-Team.

Hanyang University, South Korea
Research Intern, Summer 2016
Project: Efficient type-reduction techniques for Multidimensional Type-2 Fuzzy Sets.

Publications

Optimal Swarm RL: An improved Deep Exploration strategy
Rishav Chourasia, ICML 2019(preprint)

Visualization of Two-dimensional Interval Type-2 Fuzzy Membership Functions using General Type-2 Fuzzy Membership Functions
Rishav Chourasia, Vaibhav Saxena, Nikhil Yadala,
Dr. Frank Chung-Hoon Rhee, IFSA-SCIS 2017

Type Reduction Techniques for Two dimensional IT2 Fuzzy Sets
Vaibhav Saxena, Nikhil Yadala, **Rishav Chourasia**
Dr. Frank Chung-Hoon Rhee, FUZZ-IEEE 2017

Projects

Extending Karnik-Mendel Algorithm for Multidimensional Fuzzy type-reduction
Prof. Frank Chung-Hoon Rhee, Since 2017
Karnik Mendel(KM) algorithm is a famous type-reduction technique to transform Type-2 Fuzzy sets into Type-1 Fuzzy sets, reducing uncertainty. KM algorithm suffers from the shortcoming that it can be used only on one-dimensional Fuzzy sets. The project involves extending KM efficiently for higher dimensions.

Humanoid bot depicting dynamic walking
Robotics Club IIT Guwahati, 2017
Using simulations in MuJoCo, a virtual model of the bipedal bot was taught walking via DDPG algorithm. Using the trained model, we tried to make a real life bipedal bot walk a dynamic gait.

Dynamic Resource Allocation for Fire Incidents
Artificial Intelligence Course, 2018
By modifying a multi-agent grid world OpenAI environment called Pommerman to simulate emergency fire incidents and response deployment by nearest fire station in the San Diego region, we trained Multi-agent RL agents for improved response time.

Single and Multi-agent RL implementations
Personal Project, 2018
Implemented RL algorithms such as Q-Learning, SARSA, DQN and it's variants like DDQN, Bootstrapped DQN, Dueling DQN, Recurrent DQN for several environments like Atari, Super Mario, OpenAI benchmarks, Pommerman and MuJoCo; some as part of open-sourced contributions while other for competitions, projects and self-learning.

Awards and Fellowships

Research Fellowship
Max Planck Institute for Software Systems, 2018

Summer Research Fellowship Programme
Indian Academy of Science, 2016

Department Topper
IIT Guwahati, 2015

Winner at Robothon Kolkata
Robofest, IIIT Hyderabad, 2016

Languages and Skills

C, C++, Java, MATLAB, Lua, Python, Bash
ROS, Torch, PyTorch, TensorFlow, Keras, Gazebo, OpenCV

References

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