RASHMEET KAUR NAYYAR

Ph.D. student in Computer Science,
Arizona State University

Linkedin
Website
rmnayyar@asu.edu

EDUCATION

Ph.D. in Computer Science, GPA - 3.93/4.0   *Fall 2018 - present*
Arizona State University, Tempe, US
B.E. in Information Technology, GPA - 3.51/4.0   *Fall 2013 - Spring 2017*
Pune Institute of Computer Technology, India

RESEARCH INTERESTS

Artificial Intelligence: First-Order Open-Universe Probabilistic Reasoning, Hierarchical Planning with abstractions

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, **Arizona State University**, United States   *Fall 2018 - Present*
Autonomous Agents and Intelligent Robotics Lab, advisor: Dr. Siddharth Srivastava
- Developing an automated AI and Physics-based system to detect and identify intergalactic clouds
- Exploring a Graphical model-based Open-Universe Probabilistic Programming approach developed in Bayesian Logic (BLOG) with inference using Markov Chain Monte Caro methods in Java
- Analyzing UV Spectra obtained from the Cosmic Origins Spectrograph aboard the Hubble Space Telescope
- Collaborating with Dr. Sanchayeeta Borthakur at the School of Earth and Space Exploration, ASU

Graduate Student Assistant, **Arizona State University**, United States   *Fall 2018*
- Enriched student experience for the course "Intro to Human-Computer Interaction" under Dr. Robert Atkinson

Application Developer, **BNY Mellon Technology**, India   *Fall 2017*
- Developed the DORA Application from scratch for the Bank of New York Mellon using Java, AngularJS, Jasmine, Karma, Maven, Grunt, Jenkins, and Kanban agile methodology on NEXEN cloud-based platform

Research Project Intern, **Innobytes Technologies Pvt. Ltd**., India   *Spring 2017*
- Tackled the problem of inaccurate prediction of tags for audios in MagnaTagATune dataset *(Keras, Tensorflow)*
- Achieved an AUC-ROC score of 0.886 through CNN & CRNN deep neural network implementations Github

AWARDS, PUBLICATIONS

- Won the prestigious Chambliss Student Academic Achievement award for presenting research at the 234th summer meeting of the American Astronomical Society (AAS) in 2019. Poster
- Presented and published a paper on "Content-based auto-tagging of audios using deep learning" at the IEEE International Conference on Big Data, IoT, and Data Science (BID) 2017, Pune. Paper

RELEVANT PROJECTS

Vision-based Manipulator movement with Fetch
- Implemented a visual-feedback based method to guide the Fetch mobile manipulator's end-effector to reach the target object without using AR-markers Presentation

Comprehensive implementation of AI methods in Pacman Environment
- Created a Pacman in a multi-agent environment using DFS, BFS, UCS, A* search, minimax, expectimax, and alpha-beta pruning in Python
- Developed task plans for Pacman agent using the PDDL domain and problem for different scenarios in the game

Card Shuffling using Markov chains
- Evaluated overhand, top-to-random, Knuth, transposition, thorp, and riffle card shuffling techniques Presentation

Denoising and Stacked Autoencoders
- Built a denoising autoencoder and evaluated its denoising capabilities with different noise levels
- Trained a stacked autoencoder layer-by-layer in an unsupervised fashion, & fine-tuned the network with classifier

TECHNICAL SKILLS

Programming Languages - Python, Java, C++
Frameworks, tools, and technologies - Git, NumPy, ROS, Tensorflow, Keras, SQL, MongoDB, JavaScript
Coursework - Artificial Intelligence, Markov Chain Monte Carlo, Perception in Robotics, Fundamentals of Statistical Learning, Statistical Machine Learning, Theory of Computation, Data Structures & Algorithms