

# RASHMEET KAUR NAYYAR

PhD student in Computer Science,  
Arizona State University

<https://www.linkedin.com/in/rashmeetnayyar>

[rmnayyar@asu.edu](mailto:rmnayyar@asu.edu)

+1-602-284-9106

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Seeking an intern position for Summer 2020.

## EDUCATION

**Ph.D. in Computer Science, GPA - 3.84/4.0**

Arizona State University, Tempe, US

Fall 2018 - present

**B.E. in Information Technology, GPA - 3.51/4.0**

Pune Institute of Computer Technology, India

Fall 2013 - Spring 2017

## RESEARCH INTERESTS

First-Order Open-Universe Probabilistic Reasoning and Planning

## 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 Carlo 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

- Contributed in enriching student experience for the course "Introduction to Human Computer Interaction" under Dr. Robert Atkinson through grading and discussions

**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 and achieved an AUC-ROC score of 0.886 [Github](#)
- Implemented CNN and CRNN deep neural network architectures using Python, Keras, Tensorflow, and Librosa

## CONFERENCES, PUBLICATIONS

- Presented a poster 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 (BIGDATA) 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 the pacman agent using PDDL domain and problem for different scenarios in the game

**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 and Algorithms