RASHMEET KAUR NAYYAR

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

rashmeetnayyar@gmail.com
https://www.rashmeetnayyar.com/
https://www.linkedin.com/in/rashmeetnayyar/

EDUCATION

Ph.D. in Computer Science, Arizona State University, Tempe, US   *Spring 2020 - Fall 2024 (expected)*
 Advisor - Dr. Siddharth Srivastava   **GPA - 3.85/4.0**

M.S. (Masters in Passing) in Computer Science, Arizona State University, Tempe, US   *Fall 2018 - present*
 Relevant Coursework - Artificial Intelligence, Statistical Machine Learning, Theory of Computation, Perception in Robotics

B.E. in Information Technology, Pune Institute of Computer Technology, India   *Fall 2013 - Spring 2017*
 Relevant Coursework - Data Structures & Algorithms   **GPA - 3.51/4.0**

RESEARCH EXPERIENCE

Graduate Research Assistant, Autonomous Agents and Intelligent Robots lab, CIDSE, ASU   *Fall 2019 - Present*
- Investigating methods for automatic synthesis of abstract machines in hierarchical reinforcement learning.
- Researching key AI principles to build efficient systems that can reason about, plan, and act under uncertainty.

Graduate Student Assistant, STARs lab, School of Earth and Space Exploration, ASU   *Fall 2018 - Present*
- Developing an automated AI system in collaboration with Dr. Sanchayeeta Borthakur to detect and identify intergalactic clouds using First-order Open-Universe Probabilistic Programming approach developed in Bayesian Logic (BLOG) with inference using Markov Chain Monte Carlo methods.
- Analyzing UV Spectra obtained from the Cosmic Origins Spectrograph aboard the Hubble Space Telescope.

PROFESSIONAL EXPERIENCE

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. (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 0.886 AUC-ROC score through CNN & CRNN deep neural network implementations.

AWARDS, PUBLICATIONS, TEACHING EXPERIENCE

- Won the prestigious Chambliss Student Academic Achievement award for presenting my 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
- Taught fundamentals of Artificial Intelligence to 50 high-school students through the Clubes de Ciencia program.

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
- Designed Pacman agents in a multi-agent environment using DFS, BFS, UCS, A* search, minimax, expectimax, and alpha-beta pruning in Python. Developed task plans using PDDL 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, & technologies - Git, scikit-learn, NumPy, ROS, Tensorflow, Keras, SQL, MongoDB, JavaScript