ARUSHI KHOKHAR

Undergraduate Researcher

CONTACT INFO

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EDUCATION

Bachelor of Technology
Jaypee University of Information Technology

- Expected graduation: May 2023
- CGPA: 9.0/10
- Major: Computer Science and Engineering
- Minor: Electronics and Communication Engineering

Senior Secondary
St. Luke's Sr. Sec. School, Solan

- Courses: Physics, Chemistry, Mathematics, Computer Science

SKILLS

Robotics

- Robot Operating System
- Gazebo
- AirSim (drone simulation)
- Blender
- SolidWorks
- MeshLab

Programming Languages

- Matlab
- C++
- Python
- 8086 Assembly Programming

Frameworks and Libraries

- Scikit Learn
- Data Visualisation Libraries
- OpenCV
- OpenSim
- Tensorflow
- Pytorch
- Keras

EXPERIENCE

Research Intern | MARMoT Lab
National University of Singapore| Ongoing

- Working on decentralized multi-agent pathfinding using reinforcement learning
- Supervised by Dr Guillaume Sartoretti

Robotics Research Intern | I3D Laboratory

Indian Institute of Science, Bengaluru| Dec'21-Feb'22

- Worked on decentralized multi-agent collaboration and human-robot interaction using mixed reality
- Supervised by Prof Pradipta Biswas

Summer Research Intern | Human-Centered Robotics Laboratory

Indian Institute of Technology, Gandhinagar| May'21 - October'21

- Developed a pipeline application that provides spatiotemporal gait parameters and joint kinematics characterization from a single camera video of the participants' activities
- Supervised by Prof Vineet Vashistha

PROJECTS

Multi-Agent Collaboration

- Collaboration between a robotic arm and a mobile robot for a pick and place task
- Established communication between the two robots for collaboration

Robot Vision using Deep Learning

- Used a deep learning object detection framework (YOLO) for 2D and 3D object detection in PR2 robot.
- The entire project has been simulated using ROS and Gazebo

Monopod Robot using Reinforcement Learning

- A single-legged hopping robot simulation created using ROS and Gazebo
- The robot retains its position using the QLearning Algorithm

Profiles:

COURSEWORK

Computer Science

- Design and Analysis of Algorithms
- Data Structures
- Python Programming
- Microprocessor and Interfacing
- Data Science and Visualization
- Formal Language and Automata Theory
- Database Management Systems
- Object Oriented Programming
- Advanced Calculus
- Machine Learning
- Computer Graphics
- Compiler Design
- Computer Networks
- Wireless and Data Communication

Independent Study

- Computer Vision
- Reinforcement Learning
- Aerial Robotics (Coursera)
- Computational Motion Planning in Robotics (Coursera)
- Robotic: Mobility (Coursera)
- Robotic: Perception (Coursera)
- Deep Learning specialization (Coursera)
- Machine Learning Specialization (Coursera)

ACHIEVEMENTS

- Selected for **AI Summer School 2021, IIIT Hyderabad**
- Received **Grace Hopper Celebration Scholarship**, 2020
- Kaggle Notebooks Expert (amongst the top 0.6% Kaggle users)
- One of the top 10 students in Himachal Pradesh in **NTSE Stage 1**, 2016

ORGANISATIONS

ACM Student Chapter, JUIT
Vice-Chairperson and Research Coordinator

- Organising various bootcamps and workshops during the tenure to foster a tech-flair environment on campus.
- Established an undergraduate research group (first of it's kind) to promote research activities amongst students.
- Taught the basics of data science, machine learning and ROS to the freshmen.

Women Who Code
Data Science Track Volunteer

- Organising various activities in the community like webinars, group discussions, etc. to encourage women in STEM

OTHER

Languages

- Hindi
- English

Hobbies and Interests

- Playing Guitar
- Reading informative articles
- Quizzes

Soft Skills

- Leadership
- Team Player
- Public Speaking

Profiles: