M. Nomaan Qureshi

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Research interests

Vision based Manipulation, Control and Navigation.

Education

International Institute of Information Technology Hyderabad, India
Integrated BTech/MS in Computer Science August, 2018 – Present
Advisor: Prof. K. Madhava Krishna. *GPA: 8.82/10.*

Academic Achievements

Dean's Merit List for academic excellence for the year 2019-20.
Dean's Merit List for academic excellence for the year 2018-19.
Ranked in top 1 percentile in JEE-Advanced 2018 (total participants : 1 Million)

Publications

RTVS: A Lightweight Differentiable MPCFramework For Real Time Visual Servoing
M. Nomaan Qureshi*, Pushkal Katara *, Abhinav Gupta *, Harit Pandya , Y V S Harish , AadilMehdi Sanchawala , Gourav Kumar, Brojeshwar Bhowmick and K. Madhava Krishna
Under review, International Conference on Intelligent Robots and Systems, 2021.

Learning optimal arc-length cost for real-time pick and place sequence planning
Y V S Harish, Pushkal Katara, Arun Singh , **M. Nomaan Qureshi**, K. Madhava Krishna and Brojeshwar Bhowmick
Under review, Conference on Decision and Control, 2021.

Research Experience

Research Intern, Robotics Institute, Carnegie Mellon University, U.S.A.
Advisor: Prof. David Held. April, 2021 – Present
• April, 2021 - Present : Working on few shot policy transfer methods. Aim of the project is to design algorithms which can help transfer policies trained on one task to another task in a few shot fashion.

Research Assistant, Robotics Research Center, IIIT Hyderabad.
Advisor: Prof. K. Madhava Krishna. May, 2020 – Present
• May, 2021 - March, 2020 : Worked on learning based visual servoing methods which led to a submission in IROS 2021.
• November, 2021 - March, 2020 : Worked on the problem of table rearrangement planning. Paper under review at CDC 2021.

Skills

Languages : C, C++, Python, Javascript

Frameworks : Pytorch, Keras, Git, Habitat-Simulator, Open3D

Projects

Generating Occupancy Grids
Using pre-trained DL models and camera transformations for generating occupancy maps.

C-Shell
Inspired by the Bash built in to LinuxOS,I programmed a Shell using C programming language and system calls.

Robotics CV Algorithms
Collection of core tasks related to robotics, computer vision and deep learning

BP Monitoring Mobile Application
Developed an android application to monitor BP of patients. Features included Chat , location tracking , getting data from sensor using bluetooth, raising alerts etc.

Co-Curricular

Coordinator : Robotics Club, IIITH.
Organising Robotics Events and Competitions, conducting Teaching sessions for college students.