Dr. Ashith Shyam BABU

PERSONAL DATA

PHONE, SKYPE:	07459909812, ashithshyam
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WEBSITE:	Homepage, Portfolio
MEDIA:	Linkedin Google Scholar Publons
GITHUB:	Ash Babu
NATIONALITY:	Indian

RESEARCH INTERESTS

ROBOTICS	Serial & Parallel Robots, Robot Manipulation, Trajectory Planning & Optimization, Movement Primitives, Tele-operation
MACHINE LEARNING	Reinforcement Learning, Imitation Learning, Supervised & Unsupervised Learning, Financial Market Modeling

PROFESSIONAL EXPERIENCE

CURRENT	**Robot Control Software Engineer**, Saga Robotics, low-level control (CAN-BUS), SLAM, System Integration
MAY 2019 -MAR 2021	**Post Doctoral Research Fellow**, Surrey Space Center, University of Surrey, UK, *Future AI and Robotics for Space*. *FAIR-SPACE*, Model Predictive Control + Reinforcement Learning for space-debris removal
MAR 2018 - MAR 2019	**Post Doctoral Research Fellow**, Lincoln Centre for Autonomous Systems, University of Lincoln, UK Innovate UK project Automato
APR 2017 - FEB 2018	**Post Doctoral Research Fellow**, Robotics & Design Lab, Indian Institute of Science, Bangalore. Funded by *Indian Space Research Organization*
JULY 2007 - AUG 2008	**Engineer**, Research & Development, ELGI Equipments Ltd., Tamil Nadu New Product Development Team of the Electrically Powered Screw Air Compressor

EDUCATION

2011 - 2017	PhD, ROBOTICS, **Indian Institute of Science**, Bangalore Supervisor: Prof. Ashitava Ghosal *RQF Level 8 / SCQF Level 12 / CQFW Level 8*
2009 - 2011	Master of Engineering, ENGG. DESIGN, **Indian Institute of Science**, Bangalore Supervisor: Prof. Udipi Shrinivasa GPA: 6.2/8.0 (First Class), *RQF Level 7 / SCQF Level 11 / CQFW Level 7*
2003 - 2007	Bachelor of Technology, MECHANICAL ENGINEERING, **College of Engineering, Thiruvananthapuram**, Kerala Supervisor: Dr. Saji Kumar K S GPA: 7.8/10.0 (Distinction), *RQF Level 6 / SCQF Level 10 / CQFW Level 6 / Honours*

Key publications

- Journals

    1. **RB Ashith Shyam**, Zhou Hao, Umberto Montanaro, Shilp Dixit, Arunkumar Rathinam, Yang Gao, Gerhard Neumann, and Saber Fallah ;Autonomous Robots for Space: Trajectory Learning and Adaptation Using Imitation ; **Frontiers in Robotics and AI**, 2021, Impact Factor: **4.33**

    2. Zhou Hao, **RB Ashith Shyam**, Arunkumar Rathinam & Yang Gao ; Intelligent spacecraft visual GNC architecture with the state-of-the-art AI components for on-orbit manipulatio **Frontiers in Robotics and AI**, 2021, Impact Factor: **4.33**

    3. **RB Ashith Shyam**, & A Ghosal ; Path Planning of a 3-UPU Wrist Manipulator for Sun Tracking in Central Receiver Tower Systems, **Mechanism and Machine Theory**, 2018, Impact Factor: **3.86**

- conferences

    1. **RB Ashith Shyam**, Arunkumar Rathinam, Zhou Hao; Trajectory Tracking and Control of Multiple Robot Arms on a Free-Floating Spacecraft for Debris Removal, **UK Robotics and Autonomous Systems, (Paper),** April 17, 2020.,

    2. **RB Ashith Shyam**, P Lightbody, G Das, S Gomez & G Neumann ; Improving Local Trajectory optimization using Probabilistic Movement Primitives, **IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), (Paper)**, Nov 4 - 8, 2019, Macau.

Computer Skills

Programming:	Python, C++, MATLAB, ROS, Git
Libraries:	Pytorch, Tensorflow, NumPy, SciPy, Pandas.
Simulators:	RViz, Gazebo, PyBullet, MuJoCo,
Modeling & Analysis:	SolidWorks

Awards & Achievements

Doctoral Scholarship Grant	Indian Ministry of HRD 2011 - 2016
Travel Grant	Indian Ministry of HRD for IFToMM 2014 & SolarPACES 2015
All India Rank 21 2009	Graduate Aptitude Test in Engineering Gate: 99.90 percentile
Captain 2019	Guildford City Youth Project Cricket Team, Surrey, UK

Mini Projects

Autonomous mobile robots Vision Guided Navigation

Journal & Conference Reviews

ASME Journal of Mechanism & Robotics, IEEE Access, Mechanics Based Design of Structures and Machines

Teaching

Associate Fellow (AFHEA) UK Professional Standards Framework for teaching and learning support in higher education. (Fellowship reference PR213835)

ME 240: Dynamics and Control of Mechanical Systems, Mechanical Engineering, Indian Institute of Science. Master Level Course, 30 students
Reinforcement Learning   Machine Learning

Referees

Upon Request