

PERSONAL INFORMATION

Arjun S Kumar

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Gender Male | Date of birth 28 January 1993 | Nationality India

JOB APPLIED FOR

Research Engineer

WORK EXPERIENCE

January 2018 – Present

Robotics Engineer

Addverb Technologies
D-108, D Block, Sector 2, Noida, Uttar Pradesh (India)

Mobile Robotics and Computer
Vision Projects

- Developing an automated solutions for converting forklifts into an autonomous vehicles using ROS,SLAMs,and various other navigation sensors such as Lidar, Beacon and Depth camera.
- Developing an algorithm/strategy for Pin picking in a 3d environment using stereo vision.

Sept 2017 – December 2017

Consultant, Artificial Intelligence

Ernst and Young (EY) Innovation Center
Drishya Building, Trivandrum, Kerala (India)

Robotics and Artificial Intelligence
based Projects

- Focused on Microsoft stack of technologies including Cognitive Services, Microsoft HoloLens, and Kinect Sensor.
- Developed Intelligent applications using Convets under Microsoft CNTK framework and TensorFlow integrated with Django web framework.
- Implemented AI powered Chatbots using NLP, TensorFlow, and Api.ai.
- Researched various technologies for developing novel solutions in the domain of Computer Vision and Robotics.
- Mentored five interns in their projects.

January 2017 – August 2017

Robotics Engineer Intern

Ernst and Young (EY) Innovation Center
Drishya Building, Trivandrum, Kerala (India)

Drones based projects using
Computer Vision and Robot
Operating System (ROS)

- Developed a computer vision algorithm for crack detection in mobile towers, this intelligent algorithm will measure the area of cracks and classify the rust occurred in mobile towers using deep learning.
- Worked on Proof of Concepts levels of various projects involving computer vision applications.

June 2016 – December 2016

Robotics Engineer Intern

Ingeniarius, Lda
Coimbra (Portugal)

Swarm Robotics and ROS based
Projects)

- Worked across the entire development of a differential drive mobile robot including 3D design, electromechanical assembly, low-level and high-level programming, and artificial intelligence.
- Simulated the RDP SO and RPSO algorithms under ROS-Gazebo platform and published a research paper based on it.

EDUCATION AND TRAINING

2015–2017 **Master of Technology in Robotics and Automation (M.Tech RAU)** CGPA: 6.79/10

Amrita Vishwa Vidyapeetham, Kerala India

Master Thesis Title: 'Automated Inspection of Mobile Towers using Drones'

Courses: Machine Learning, Machine Vision, Mobile and Autonomous Robotics, Introduction to Robotics, Industrial Automation, Embedded Systems Design, Design and Analysis of Algorithms, Computer Programming Including Python and Embedded C, Digital Image Processing, Probability and Statistical Inference, Mathematical Foundations for Robotics and Automation

2015–2017 **Bachelor of Technology in Computer Science and Engineering (B.Tech CSE)** CGPA: 6.61/10

Amrita Vishwa Vidyapeetham, Kerala India

Courses: C Programming, Object Oriented Programming using C++, Discrete Mathematics, Embedded Systems, Pattern Recognition, Compilers, Computer Graphics, Algorithms, Database Management and Systems, Operating System, Computer Networks, Data Structures, Software Project Management, Communicative English

PERSONAL SKILLS

Mother tongue Malayalam

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C1	C1
Portuguese	A1	A1	A1	A1	A1

Communication skills

- Good communication skills gained through working as teams from research team lead to research intern and through various communication channels.
- Good Presentation skills gained through various workshops, events from academics to firms.

Organisational / managerial skills

- Currently serving as National Contact Point of India on behalf of Ingeniarius,Lda, Coimbra, Portugal with a vision to built a worldwide robotics communities.
- Played a major role in setting up the Digital Lab of EY for the programme EY-Workspace.
- Served as Class Representative of M.Tech RAU for an year.
- Mentored master students in their projects.

Computer skills

- Programming Languages : Python, C,C++,C, Android, Matlab
- Web Technologies : HTML, CSS, Flask, Django
- Tools : ROS, Gazebo, Blender, Latex, Eclipse,Unity
- OS : Windows, Linux
- Database Technologies : MySQL, Firebase

Studies related skills

- Have worked in a real time project during internship at EY
- Have implemented various machine learning algorithms on real data sets.
- Mentored master students in their projects.

ADDITIONAL INFORMATION

- Certifications**
- *Robotcraft 2016*, Ingeniarius,Lda, Coimbra, Portugal - A summer internship programme on building a Mobile Robotics from scratch with ROS support.
 - *Robot Modeling and Control, and Applications to Aerial Robots*, IIT-J, Rajasthan, India - A short term winter course on Aerial Robotics and its applications.
 - *Mobile Robotics*,Swinburne University of Technology, Australia, Open2study(MOOC).
 - *Machine Learning with Python*,Big Data University (MOOC).
- Publications**
- *Search and rescue operations using robotic darwinian particle swarm optimization*, Arjun S Kumar, MS Couceiro, International Conference on Advances in Computing, Communications and Informatics (2017)
- Projects**
- Implemented voice assistant chat bot using ROS and Artificial Intelligence Markup Language. Deep Learning using TensorFlow and ROS, (<https://github.com/arjuns Kumar>).
 - Implemented Object Recognition using TensorFlow and ROS.
 - Implemented all the basic machine learning algorithms using R and Python
 - Adaptive Flexible Gripper, (<https://www.youtube.com/watch?v=XWK9qJGlodg>). The gripper can form around very asymmetrical and smooth shapes and pick up the objects.
 - Right Path,an intelligent android application that aims for talent recognition among teenagers. It was developed for the Neurology Department of Amrita Institute of Medical Science(AIMS), Kochi, India.
- References**
- Dr Micael S Couceiro , Chief Executing Officer, Ingeniarius,Lda, Coimbra, Portugal.
Email id : micael@ingeniarius.pt
 - Dr Jyothisha J Nair, Associate Professor and Vice ChairPerson, Department of Computer Science and Engineering, Amrita Vishwa Vidyapeetham University, Kerala, India.
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