Karthik Rangarajan

Sr.Robotics Engineer - AxisNJ

1.5 years of experience as Robotics Engineer and led various robotics and automation projects and deployed solutions on-site. Proficient in ROS|OpenCV|Python, Fusion360 and electrical systems. Developed neural network to detect power line using drones.

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WORK EXPERIENCE

Sr.Robotics Engineer
Axis NJ

08/2019 - Present

Achievements/Tasks

- Successfully deployed 6 systems of custom developed GUI with ROS for Robotize GoPal, a warehouse mobile robot using LIDAR, 3D camera sensors to detect obstacles.
- Successfully developed custom vision based algorithm using LMI 3D line scanner for a pick and place application.
- Developed ROS based solution for Universal Robots with automated motion/path planning, collision avoidance from multiple sensors, automated tool changer based on the type of part detected from vision system.

Education Tutor
K12- Stem Education

01/2018 - Present *Brooklyn*

Achievements/Tasks

- Successfully taught Fusion 360 CAD designing, simulation, rendering, animation from the knowledge of Solidworks.
- Ongoing with teaching Robotics and entrepreneurship experiences among teachers and students.
- Successfully initiated drone program and developing curriculum for elementary and middle school.

Product Engineer
Centum Electronics Pvt Ltd

09/2014 - 08/2017 *Bangalore, India*

Tasks/ Accomplishments

- Created FMEA's, APQP's and evaluated the new processes like AOI and AXI automation, POP assembly.
- Implemented project on Automation in industry by developing in-house software to track, maintain, record components and assembled parts.
- Successfully managed 2 projects by meeting both the customers specification on PCB designs and manufacturing with 96% OTD.

EDUCATION

MS - Robotics and Mechatronics
New York University

08/2017 - 05/2019

Bachelor of Engineering
S.J.C. Institute of Technology

08/2009 - 06/2013

SKILLS

Python | MATLAB | OpenCV | KiCAD | PyTorch | ROS | C/C++ | Gazebo/Rviz | CUDA | Fusion360 | LIDAR | Additive manufacturing | Intellectual curiosity | Adobe Suite | Creativity | Collaborative team spirit

PROJECTS

Developed custom Axis Vision System with GUI for object detection and coordination with Universal Robots.

Successfully designed conceptual Robotic snake which can shapeshift. (01/2018 - 06/2018)
- https://www.youtube.com/watch?v=PQZY7PegZjE

Successfully completed drone prototype to detect power lines using magnetic field and electric field data. (07/2018 - 12/2018)

Developed algorithms using PyTorch framework to detect power lines from drone's camera and CPU. (08/2018 - 05/2019)

Designed Way-point navigation system in Multi-rotor and Designed First Person View. (03/2016 - 09/2016)

ACHIEVEMENTS

Patented stair-climbing stroller which can be used without being carried on stairs. (02/2018 - 05/2019)

Certified for Autonomous robotics conducted by TECHNOPHILIA SYSTEMS.

Certified for Electronic Design Automation (EDA) using Allegro OrCAD.
3 month course on designing PCB's

LANGUAGES

English
Expert

Kannada
Native or Bilingual

Tamil
Native or Bilingual

Hindi
Upper-intermediate

INTERESTS

FPV Freestyle | Drone designing | UAV's | Multi-rotors | RC flying | TED talks