Shreyas Kanjalkar

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EDUCATION

- **Worcester Polytechnic Institute** — Worcester, MA
  Master of Science, Robotics; GPA: 4.00/4.00 — *Aug 21 - May 23*
- **Manipal Institute of Technology** — Manipal, India
  Bachelor of Mechanical Engineer; GPA: 8.26/10.00 — *Aug 16 - May 20*

PAPER PUBLICATION

- **Quantitative Haemodynamic Study in Renal Artery Bifurcation using Computational Fluid Dynamics**:
  P.Hegde, *S. Kanjalkar*, S.M. Shah, G.B. Shenoy, B. R. Pai, M. Tamagawa, R. Prabhu, D. Shrikanth Rao;
  Journal of Engineering Science and Technology 21 — pdf
  - Designed and analyzed blood flow simulation in humans, which can help doctors visualize the intricacies of the patient
  - Presented the paper at **Global Conference on "Advanced Smart and Sustainable Technologies in Engineering 20"**

INDUSTRY EXPERIENCE

- **Wipro PARI — Robot and Automation Design Engineer Intern**: *Summer 22*
  - Designed and drafted Pallet and Wall Mounting Bracket used in Tower Parking System to allow up to 64 vehicles to park in the space of 3 using SolidEdge software
- **Force Motors Pvt. Ltd — Research and Design Engineer Intern**: *Summer 19*
  - Developed prototype routing of fuel and exhaust system pipe for a MUV using CATIA V5

RELEVANT COURSES

- Computer Vision, Algorithms: Design and Analysis, Data Structures, Motion Planning, Artificial Intelligence, Robot Dynamics and Control, Project Management

ACADEMIC PROJECTS

- **Panorama stitching of images using Classical and Deep Learning**: *Fall 22*
  - Implemented corner feature detections using RANSAC on COCO image data set and created panorama — pdf
  - Created a supervized and unsupervized neural network to estimate homography for different view points of an image
- **Probabilistic Edge Detection using Classical and Deep Learning**: *Fall 22*
  - Implemented the edge detection on the CIFAR-10 image data set and compared it with the classical Canny and Sobel Edge detection — pdf
  - Used ResNET and DenseNET neural networks to do image prediction on the CIFAR-10 image data set
- **Optimal Watchman Route in an unknown environment**: *Spring 22*
  - Found static location of cameras to guard all the edges of the environment at all times — github
  - Constructed a walking path for a robot to follow to monitor the edges of the environment in minimum time
- **Joint Space PID Control of Manipulator Robot**: *Fall 21*
  - Implemented inverse kinematics and a PID controller to track desired trajectory of the tool mounted on robot
  - Simulated a RRP Manipulator robot in Gazebo simulation — github
- **Manipal Institute of Technology**: Computational Fluid Dynamics — Analysis of blood flow in humans *Fall 19 - Spring 20*
  - Designed a simulator for blood flow through abdominal aorta-renal artery junction using CATIA and ANSYS software
  - Found results which showed that increase in angle between aorta and renal artery affected blood flow behaviour

TECHNICAL SKILLS

- **Languages**: Python, Pytorch, C++, SQL, DL, OpenCV, ROS, HTML5, CSS, JavaScript
- **Tools**: AutoCAD, ANSYS, CATIA, MATLAB

HONORS AND AWARDS

- Event Head at Technical and Cultural festivals conducted at Manipal Institute of Technology
- Winner of Open Chess Tournament at Manipal Institute of Technology
- Served as the General Secretary of MIT Gaming in 2018-19