

Omkar Thawakar

Research Engineer

Self motivated CS graduate seeking research opportunity in organisations with a team of experienced and talented people to utilize my ideas, knowledge, and determination for the proliferation of the organization.

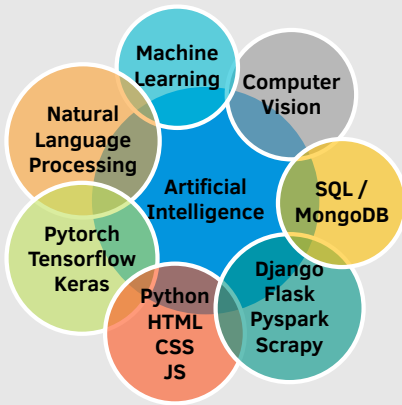
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Skills



Awards

- Emerging team leader award at Chefling.
- Best project award for B.Tech thesis.
- First price in maze solver robot competition for 3 consecutive years 2016-2018 during undergrad.
- NTSE scholarship in high school.
- First price for science-exhibition project in high school.

Education

SGGSIE&T Nanded, India

Undergrad (August 2015 - July 2019)

- Major : Computer Science
- Minor : Deep Learning and AI
- CGPA : 8.1

Bhartiya Mahavidyalaya, India

High School (June 2013 - May 2015)

- Major : General Science
- Percentage : 83.73

G.R. Kabra Higher Secondary school

High School (June 2012 - May 2013)

- Major : General Science
- Percentage : 94.86

Research Experience

Researcher, MBZUAI, UAE (May 2021 - Present)

Supervisor : Dr. Fahad Khan

- Worked on video instance segmentation with transformers. (SOTA performance)
- Worked on open-world video instance segmentation and remote sensing downstream applications (detection, scene classification, semantic segmentation).

Machine Learning Engineer, Chefling, India (Feb 2020 - May 2021)

- Worked on creating and deploying own recipe scraping service with ML supported by python scrapy tools.
- Worked on recipe tagging service for raw recipe data.

Research Assistant, IIT Ropar, India (Jan 2019 - Feb 2021)

Supervisor : Dr. Subrahmanyam Murala

- Worked on vision problems such as Image and Video Super Resolution, Moving Object Segmentation and Image restoration.
- Worked on AI solutions for educational, industrial and commercial purposes.

Publications

- Video Instance Segmentation via Multi-scale Spatio-temporal Split Attention Transformer. **Omkar Thawakar**, Fahad Shahbaz Khan *et al.* in **ECCV 2022**. [link](#)
- "Motion Saliency Based Generative Adversarial Network For Underwater Moving Object Segmentation. **Omkar Thawakar**, S Murala *et al.* in **IEEE ICIP 2019**. [link](#)
- Image and Video Super-Resolution with Generative Adversarial Network. **Omkar Thawakar**, S Murala *et al.* in **IEEE AVSS 2019**. [link](#)

Projects

Real Time Piston Ring Detection (Sponsored By : Yamaha Research Lab, India.)

- Created TF-Lite model for piston ring detection to avoid engine scraping due to faulty piston.
- Industry level deployment of model (data collection, processing and predictions) using NVIDIA Jetson Nano.
- Coordinate with clients to improve the functionality of the product and overall cost reduction. [more details](#) [YouTube](#)

Self Learning Robot (Reinforcement Learning with IR sensors and DC motors.)

- Self Learning Maze Solver Robot built with Deep Q-Learning which learns to follow its path without explicitly programmed.
- Faster Learning of Q table for given states which is useful for identifying the desired paths.
- Real time faster training which will further extended to Robotic-Arm and Walking robot. [more details](#) [YouTube](#)

Django/Python Applications

- PhotographyAdda : Social Networking platform where people can share their photos/albums. AI based Ranking of users based on likes and photo quality. [git](#)
- Research Lab Portfolio : Fully dynamic web application for research lab for research work presentation, people's info and job posts. [git](#)

Image Enhancement for Mobile Application (Commercial R&D Project.)

- Design and Developed deep learning model for scattering effect removal in high quality images using image to image translation concept.
- Optimize the AI model for high end mobile platforms with desired results.