Omkar Thawakar

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Portfolio | LinkedIn | Github | Medium

I'm a self-motivated Computer Science Graduate and a research engineer with a Bachelor of Technology from SGGSIE&T, Nanded. Seeking research opportunity in the industry with a team of experienced and talented engineers to utilize my ideas, knowledge, and determination for the proliferation of the organization.

EXPERIENCE

CVPR Lab , IIT Ropar, India - Research Assistant

July 2019 - present

- Developed artificial intelligence and deep learning products and solutions for commercial, industrial, and educational purposes.
- Tweaked deep-learning systems and associated algorithms for better image to image translation and delivery.
- Designed and conducted research experiments to test theories for improved performance.

IIT Ropar, Research and Development Intern

January 2019 - May 2019

- Propose a Generative Adversarial Network for Image and Video Super Resolution with multi scale resolutions.
- Works for images as well as videos. Single Network for multi scale resolution.
- Design and Developed dynamic website involving relational database with Django.
- Developed an Android application for haze removal with TFLite model.

PUBLICATIONS

I. Omkar Thawakar, Prashant W Patil, Akshay Dudhane, Subrahmanyam Murala, U V Kulkarni, "Image and Video Super-Resolution with Generative Adversarial Network" accepted in IEEE ICIP 2019.

II. Prashant W Patil, Omkar Thawakar, Subrahmanyam Murala, " Motion Saliency Based Generative Adversarial Network For Underwater Moving Object Segmentation " accepted in IEEE AVSS 2019.

III. Omkar Thawakar, Alok Jadhav, Charul Rathore, "Application of Machine Learning for profile reconstruction of IPM device" in IEEE IC3NS-2018.

IV. Omkar Thawakar, Pranav Gajjewar, "Training Optimisation of Feedforward Neural Network for Binary Classification" in IEEE ICCCI 2019.

SKILLS

Languages:

Python, MySQL, JavaScript, C, Java, Ruby.

Tools/Frameworks:

Tensorflow, Keras, Pytorch, Django, PySpark, Latex, PyCharm, Android Studio

Microcontroller:

NVIDIA-Jetson (Ajax Xavier and Nano), Raspberry-Pi, Arduino-IDE.

AWARDS

Best Research Paper award at IEEE IC3NS, India.

Best Project award for B.Tech thesis at SGGSIE&T Nanded.

First Prize in Robotics Event at Pragyaa 2016-2018.

LANGUAGES

English - Full Professional Proficiency

Hindi - Native

Marathi - Native

EDUCATION

Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded — *Bachelor of Technology* , June 2015 - June 2019

4 year course for Bachelor's Degree in Computer Science and Engineering.

CGPA: 7.55

Bhartiya Mahavidyalaya, Amravati — *Higher Secondary Education* , June 2013 - June 2015

Maharashtra State Board of Secondary and Higher Secondary Education

Percentage: 83.73%

G. R. Kabra Higher Secondary School, Amravati — *Secondary School Certificate* , 2008 - 2013

Maharashtra State Board of Secondary and Higher Secondary Education

Percentage: 90.71%

PROJECTS

CVPRLab Website — Django Application

Working as an Intern, I designed and developed a dynamic website with Django framework. My responsibilities in this project included but not limited to -

- ❏ Design and Developed the fully functional dynamic website for CVPR Lab, IIT Ropar
- ❏ Effectively used Django functionality for creating relational database used in backend.
- ❏ Create robust and responsive design which leads to efficient and faster behaviour.

Real Time Piston Ring Detection — Deep Learning model with Jetson Nano .

Our project aims the real time detection of the rings in piston. Our objective is to develop a small device which real time detect piston rings. We consider the fact that the cost of our device should be less than 20,000 INR.

- ❏ Created Tensorflow model for piston ring detection using image-to-image translation
- ❏ Deployed the model to process real time data on NVIDIA-Jetson nano for Industrial use.
- ❏ Coordinate with clients to improve the functionality of the product.

PhotographyAdda - Social Networking platform for Photographers

A Social Networking platform for photography lovers and photographers. This platform provides functionality to user to create, share their albums and videos.

- ❏ Optimal implementation of dynamic social networking website in Django for photographers to share their photos and albums on a common platform.
- ❏ Clean pragmatic design which leads faster and responsive behaviour.
- ❏ Effective use of Django database to implement large relational database

Self Learning Robot - Reinforcement learning of maze solver robot.

- ❏ Self Learning Robot built with Deep Q-Learning which learns to follow its path without explicitly programmed. Faster Learning of Q table with given states.
- ❏ Real time faster training which will further extended to Robotic-Arm and Walking Humanoid robot.