

Snehal Padhye

EDUCATION	<p><i>Doctor of Philosophy</i>, Imaging Science Rochester Institute of Technology, Rochester, NY August 2018 - Present CGPA: 3.69/4</p> <p><i>Master of Technology</i>, Signal Processing College of Engineering Pune, Maharashtra, India August 2013 - May 2015 CGPA: 9.13/10</p> <p><i>Bachelor of Technology</i>, Electronics and Communication Ramdeobaba College of Engineering and Management, Nagpur, Maharashtra, India May 2009 - July 2013 CGPA: 73.02%</p>
EXPERIENCE	<p><i>Teaching Assistant</i></p> <ul style="list-style-type: none">• Computer Resource Pool Spring 2019 Responsible for solving programming related queries of any student in the department.• Imaging science Fundamentals Fall 2018 Responsible for conducting and grading labs. <p><i>System Engineer</i> June 2015 - July 2018 Engineering and Industrial Services unit, Tata Consultancy Services, Pune, India</p> <ul style="list-style-type: none">• Lead Scripting functionality of Monitoring and Control (M&C) System for Giant Metrewave Radio Telescope (GMRT) which is a precursor for Square Kilometer Array (SKA).• Redesigned an existing unstable scripting engine and completed it in 80% less time with both GUI and Command Line Interface(CLI), increasing requirement coverage to 100%.• Lead Alarm designing for M&C system. Improved alarm configuration time by 80%. Increased requirement coverage from 40% to 80%.
COURSES COMPLETED	Image Processing and Computer Vision, Radiometry, The Human Visual System, Optics for Imaging, Foundation of Computer Graphics, Global Illumination
SKILLS	Working Knowledge: Python, MATLAB, JavaScript, HTML Basic Knowledge: C++, C, Java, ENVI, C# , GLSL, Assembly Language
PUBLICATIONS & TALKS	<ul style="list-style-type: none">• Paper titled 'Real-time illumination capture and realistic rendering on mobile devices' submitted in Eurographics Workshop on Graphics and Cultural Heritage 2020.• Paper titled 'A Web-based Visualization Tool for Multispectral Images' submitted in Electronic Imaging - 2021.• Abstract titled 'A simple web-based tool for multi-spectral and topographical visualization' submitted in SPIE Defence + Commercial Sensing - 2021.

- Presented ‘Measuring, Modeling, and Visualizing Surface Appearance’ with Dr. James Ferwerda in Color & Imaging Webinar 2020.
- Abstract titled ‘Digital Modeling Of Cultural Heritage Objects’ published in Frameless Symposium 2019.
- Abstract titled ‘Application of analytics in Large Experimental setups’ accepted for ICALEPCS-17.
- Paper titled ‘Feature Extraction from Microwave Image from Backscatter Co-efficient’ published in IEEE International Conference (ICIC) - 2015.

PROJECTS

Realistic Digital Modeling & visualization of cultural heritage objects

Python, MATLAB, C#

Working on developing a system capable of capturing surface topography along with the material properties to construct a realistic digital model of planar cultural heritage objects such as paintings and manuscript.

Tools for multispectral Visualization

JavaScript, HTML, Python

Working on developing Web-based tools for simultaneous visualization and analysis of mutispectral and multimodal data.

Capture & render real time scene illumination

JavaScript, HTML, Python

Developed an application to capture user’s real time illumination environment and use it to render an object in the virtual scene. The effect of change in illumination in user’s environment is reflected in the virtual scene.

Ray Tracer

Python

This project implements a ray tracer from scratch in Python.

2D Scene reconstruction in computer graphics using only primitives

C++, GLSL

Reconstructed a 2D complex scene in 3D using only primitives such as a triangle, cone, rectangle and sphere.

OCR on curved surfaces

Python, Tensorflow

This project aims to recognize text from randomly curved surfaces. I used deep learning to perform OCR on the curved surfaces. It is targeted to use as an application to aid shoppers in automatic nutrition and price comparison of products.

Feature Extraction from microwave images using backscatter coefficient

Python

Studied microwave images and extracted features from the data by segmentation after increasing PSNR from 17 to 21.46

Application of PLC in automation in Industrial

Sorting

Ladder logic, assembly language

Sorted 30 varied objects per minute, based on their length, with minimum human intervention. The prototype demonstrated potential cost savings and minimization of manual error.