# Snehal Padhye
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## EDUCATION

**Doctor of Philosophy, Imaging Science** <span style="float:right">Aug. 2018 – Present</span>

*Rochester Institute of Technology* <span style="float:right">*Rochester, NY*</span>

**Master of Technology, Signal Processing** <span style="float:right">Aug. 2013 – May 2015</span>

*College of Engineering Pune* <span style="float:right">*Pune, India*</span>

## WORK EXPERIENCE

**Apple** <span style="float:right">Sunnyvale, CA</span>

*PPO Hardware Engineering Intern, Display Exploration team* <span style="float:right">*May 2022 – Aug 2022*</span>

- Modified components in the rendering pipeline to enable simulation and exploration of volumetric effects for prototype displays.
    - ∗ Developed an application to demonstrate the volumetric effects within the framework and conducted psychophysical experiments to evaluate the effects of the algorithm.
    - ∗ Worked on generating ground truth data for deep learning based model of the algorithm.
    - ∗ Contributed in optimization of the algorithm.

**Facebook Reality Labs** <span style="float:right">Redmond, WA</span>

*Research Intern, AR Display Engineering team* <span style="float:right">*May 2021 – Sept 2021*</span>

- Developed 'AR Simulator' to determine product specifications and inform engineering requirements.
    - ∗ Evaluated the display pipeline feasibility of a Unity simulation and simulated key components usable for Oculus link and standalone HMD.
    - ∗ Augmented existing simulations to the AR display pipeline components for a more realistic experience of the product.

**Rochester Institute of Technology** <span style="float:right">Rochester, NY</span>

*Graduate Research Assistant, Visual Imaging and Technology Lab* <span style="float:right">*Aug. 2019 – Present*</span>

- Develop an end-to-end solution for creating realistic experiences of the near planar cultural heritage objects.
    - ∗ **Capturing and Modeling** : Develop a lightweight appearance capture system for near planar objects.
    - ∗ **Visualization** : Develop a web-based tool for visualization of the captured digital models.
    - ∗ **Interaction** : Develop techniques to render the digital models using the user's real time environment.
    - ∗ **Perception** : Create tools to help us understand material perception using the tangible display system.

## PUBLICATIONS

- Padhye, S., Messinger, D. and Ferwerda, J., 'SVBRDF estimation using a normal sorting technique', **SIGGRAPH** Poster Session (2022) and Journal of Imaging Science and Technology (**JIST**) (2022).
- Padhye, S. and Ferwerda, J. 'Real-time illumination capture and realistic rendering on mobile devices', **Frameless** Journal (2021).
- Padhye, S., et al., 'Visual perception of surface properties through direct manipulation', **VSS** (2021). Recipient of **Elsevier Vision Research Virtual Travel Award**.
- Ferwerda, J. and Padhye, S.,'Visual Perception of Surface Properties Through Manipulation', **Color and Imaging Conference (CIC)** (2021).
- Padhye, S., Messinger, D. and Ferwerda, J., 'A Practitioner's guide to Fringe Projection Profilometry', **Archiving** (2021).
- Padhye, S., Messinger, D. and Ferwerda, J., 'A Web-based Visualization Tool for Multispectral Images', **Electronic Imaging** (2021) and **SPIE** Defence + Commercial Sensing (2021).
- Padhye, S., Messinger, D. and Ferwerda, J., 'Digital Modeling Of Cultural Heritage Objects', **Frameless** (2019).

## TECHNICAL SKILLS

**Working Knowledge**: Python, Unity, Three.js, MATLAB, JavaScript, HTML, GLSL/HLSL
**Basic Knowledge**: C/C++, C#, PyTorch, TensorFlow, Java
**Courses completed**: Image Processing and Computer Vision, Radiometry, The Human Visual System, Optics for Imaging, Foundation of Computer Graphics, Global Illumination