

# SEHAJDEEP SINGH

AI Researcher with expertise in computer vision and diffusion models, including academic research experience at IIIT-Delhi and 3+ years of industry AI development at HP Inc. Currently pursuing MS CS (Adv Entry) at University of Sydney.

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sehajsasan

sehajsasan.github.io/sehaj-notepad

## WORK EXPERIENCE

### Research Associate

#### IIIT-Delhi, VCG Conception Lab

July 2024 – July 2025 Delhi, India

- Conducted research in 3D computer vision on novel view synthesis using diffusion models under [Prof. AV Subramanyam](#).
- Designed novel conditioning pipelines, custom architectures, and large-scale experiments on multi-view datasets. Achieved state-of-the-art visual fidelity and view consistency.
- Work resulted in a first-author paper under review at a top-tier AI conference.

### SDE 1 - SDE 2

#### HP Inc

July 2021 – July 2024 Bangalore, India

- Onboarded and enabled test teams with novel AI tool created during internship for UI automation with results showing 30-40% increase in AI assisted automated tests being run.
- Led the end-to-end development and deployment of Full-Stack solutions, identifying workstream gaps and automation opportunities to streamline processes for teams.

### Research Intern

#### Hp Inc

Feb 2021 – July 2021 Bangalore, India

Developed a novel method to perform Intelligent Automated UI Testing for HP desktop apps and web applications, using a combination of old legacy image processing algorithms and deep learning models.

## RESEARCH PROJECTS

### DDIM Inversion based Novel View Synthesis

#### IIIT-Delhi

July 2024-July 2025

- Single-image DDIM Inverted latent view translation framework with a novel fusion strategy which utilizes high-fidelity generative capabilities of a pretrained diffusion model for Single Image Novel View Synthesis.
- Abstract and few Qualitative results from the paper - [click here](#).

### CV based Intelligent Test Automation

#### HP Inc

Feb 2021-March 2022

- Adapting to new GUI-specific image processing algorithms for non-text GUI detection and mature deep learning model for GUI text detection.
- Used CNNs for classification and image feature extraction, and transformer encoder-decoder to generate conditioned and context aware outputs to be used for autonomous UI testing.

## EDUCATION

### MS CS (Advanced Entry)

#### University of Sydney

Aug 2025 - Aug 2027 Sydney, Australia

### B.Tech in CSE

#### Manipal Institute of Technology

July 2017 – July 2021 Manipal, Karnataka

## FULL-STACK PROJECTS

### Dockerized Imaging Ops

#### HP Inc

Feb 2023-Jan 2024

- All-in-one dockerized framework/web app, for streamlined dataset management, version control, and test execution across various applications on multiple platforms.
- Reduced Software Delivery Turnaround Time by 40%.

## BLOG POSTS

Homepage: <https://sehajsasan.github.io/sehaj-notepad/>

## SKILLS

Python Pytorch Diffusion Models  
Computer Vision Deep Learning  
FastAI JavaScript Restful APIs  
React.js MongoDB

## MOST PROUD OF



### DDIM Inversion based NVS

Achieved state-of-the-art results in novel view synthesis through novel DDIM inversion based framework developed during year-long research collaboration at IIIT-Delhi, resulting in first-author paper submission to top-tier conference.



### CV based Intelligent Test Automation

Enabled autonomous UI testing, transitioning organization from manual to AI Assisted Test Automation. Paper selected for poster presentation at HP Data Science Summit amidst hundreds of submissions.