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 Master in Computer Science (Adv Entry) at University of Sydney.

sehajsasan@gmail.com | +61 410 596 924 | Sydney, Australia | sehajsasan.github.io/sehaj-notepad
@sehajsasan | sehajdeep-singh-3a54957a | sehajsasan

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.