# Ashish Sinha

https://sinashish.github.io
ashish_sinha@sfu.ca | (+1) 604.710.7197

## RESEARCH INTERESTS

**COMPUTER VISION/GRAPHICS**
Neural Rendering
3D Reconstruction; Domain Adaptation; Applications in Medical Imaging & Life Sciences.

## EDUCATION

**SIMON FRASER UNIVERSITY**
MS in Computing Science
Sept 2021 | Burnaby, CA
Advisor(s): Prof. Ghassan Hamarneh

**INDIAN INSTITUTE OF TECHNOLOGY (IIT) ROORKEE**
B. Tech in Materials Science
Grad. Aug 2020 | Roorkee, IN
Advisor(s): Prof. K.S. Suresh

## LINKS

Github: **sinashish**
LinkedIn: **sinashish**
Twitter: **@sinashish1**

## COURSEWORK

**CLASSROOM**
Algorithm Design
Machine learning
Geometric Modeling in Computer Graphics
Computer Vision & Deep Learning
Neural Advanced Rendering
Generative Modeling
ML for Life Sciences

**TEACHING**
Into to Computing Science
Intro to Computer Systems
Partial Differential Equations
General Chemistry

## SKILLS

**Advanced**:
Python (Pytorch • Jax • Numpy)
**Proficient**:
Bash • GIT • SLURM • C\C++
CUDA • (neo)VIM • LaTeX• SQL
Blender
**Familiar**:
Taichi • Javascript\HTML\CSS
MatLab • Linux

## RELEVANT EXPERIENCE

**MEDICAL IMAGE ANALYSIS LAB, SFU** | Research Assistant
Nov 2021 – Present | Burnaby, CA
- Differentiable rendering framework for dermatological data synthesis. (MedIA)
- Diffusion-based anatomical tree generation using implicit neural fields (MICCAI).
  Advisor(s): Prof. Ghassan Hamarneh

**GIST VISION LAB** | Research Intern
Dec 2020 – Aug 2021 | Gwangju, SK
- Explored Multi-target point cloud domain adaptation (CVPR).
  Advisor(s): Prof. Jonghyun Choi

**PREFERRED NETWORKS INC.** | Research Intern
Jun 2019 - Aug 2019 | Tokyo, JP
- GAN-based CT reconstruction from X-rays (NeurIPS).
  Advisor(s): Yohei Sugawara & Yuichiro Hirano

**ETS MONTREAL** | Research Intern
Mar 2019 - Jul 2019 | Montreal, CA
- Designed a novel attention module for Semantic Segmentation of abdominal organs (JBHI).
  Advisor(s): Prof. Jose Dolz

## SELECTED PUBLICATIONS

1. Representing Anatomical Trees by Denoising Diffusion of Implicit Neural Fields
   **In Review MICCAI 2024 | A. Sinha, G. Hamarneh**
2. DermSynth3D: Synthesis of in-the-wild Annotated Dermatology Images
   **MedIA 2024 | A. Sinha*, J. Kawahara*, A. Pakzad*, K. Abhishek, M. Rutheven, E. Ghorbel, A. Kacem, D. Aouada, G. Hamarneh**
3. MEnsA: Mixup Ensemble Average for Multi Target Domain Adaptation on Point Cloud **CVPR (W) 2023 | A. Sinha, J. Choi**
4. Multi-Scale Self-Guided Attention Networks for Medical Image Segmentation
   **JBHI 2020 | A. Sinha, J. Dolz**
   **Citations: 400+**
5. Deep Learning Based Dimple Segmentation for Quantitative Fractography
   **ICPR (W, Spotlight) 2020 | A. Sinha, KS. Suresh**
6. GAGAN: CT Reconstruction from Biplanar DRRs using GAN with Attention
   **NeurIPS (W), 2019 | A. Sinha, Y. Sugawara, Y. Hirano**

## AWARDS

| | | |
|---|---|---|
| 2024 | SFU | Ralph M Howatt Graduate Scholarship |
| 2023 | SFU | DBMiner Graduate Scholarship |
| 2023 | SFU | Backwater/Jost Grad Scholarship |
| 2020 | CVPR | NTIRE Demoireing Challenge ($13^{th}$) |
| 2017-20 | IIT | Merit-cum-Means Scholarship |
| 2019 | Kaggle | PetFinder.my Adoption Challenge ($3^{rd}$) |
| 2017 | IIT | Science and Technology Quiz ($1^{st}$) |

## EXTRA-CURRICULARS

| | | |
|---|---|---|
| 2023-24 | Secretary | Computer Science Graduate Student Association |
| 2019-20 | Co-Founder | UG Research Interest Group for interdisciplinary research. |
| 2014-16 | Co-Founder | Quizense, a startup to provide trivia-based quizzing solutions. |