Ashish Sinha

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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
- Created a framework for dermatological data synthesis. (MedIA)
- Diffusion-guided Vessel generation from implicit neural fields (MICCAI).
  Advisor(s): Prof. Ghassan Hamarneh, Prof. Andrea Tagliasacchi

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 In Review (MedIA) 2023. | **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

2023-24	Secretary	Computer Science Graduate Student Association
2019-20	Co-Founder	UG Research Interest Group for interdisciplinary research.
2015-16	Co-Founder	Quizense, a startup to provide trivia-based quizzing solutions.