SIDDHARTH SARAVANAN

Final Year Undergraduate Student at BITS Pilani K K Birla Goa Campus

email: f20180265@goa.bits-pilani.ac.in ⋄ ResearchGate

Mobile: +91 9884728567 ⋄ GitHub Page

EDUCATION

BITS Pilani K K Birla Goa Campus *2018-2022*
Bachelor of Engineering. (Hons.) Computer Science.
CGPA: 9.43/10. − Dept. Rank: 6/237.

EXPERIENCE

CSIR-CEERI, Pilani May - Jun 2020
Research Intern *Pilani, India*
· Worked in a group on the project "Machine Learning Algorithms for Structural Health Monitoring".

RESEARCH PROJECTS

Segmentation Algorithms for High Resolution Images May 2021 - Present
· *Supervisor: Professor Sravan Danda, BITS Pilani, K K Birla Goa Campus.*
· Used morphological operations and the Random Walker algorithm to perform image segmentation on High Resolution Images and refine segmentations made by deep learning models such as DeeplabV3+.

Deep Learning Framework for Optical and Microwave Image Matching Jan - May 2021
· *Supervisor: Professor Nitin Sharma, BITS Pilani, K K Birla Goa Campus.*
· Developed a pipeline involving a GAN and a CNN which performed image registration on non-registered cross-spectral, remote sensing images.

Composition and Rendering of Bharatanatyam Performance in Augmented Reality
Aug 2020 - May 2021
· *Supervisor: Professor Ramprasad S. Joshi, BITS Pilani, K K Birla Goa Campus.*
· Designed an object oriented algorithm which uses Blender and Python to create animations of a dancer performing the Indian dance form of "Bharatanatyam" from a given a list of 30-dimensional vector codes.

Machine Learning Algorithms for Structural Health Monitoring May - Jun 2020
CSIR-CEERI, Pilani
· *Supervisors: Dr Kota Solomon Raju, Senior Principal Scientist & Dr Gaurav Purohit, Scientist.*
· Used CNNs to predict the structural integrity of a building based on data recorded by accelerometers (during a simulated natural disturbance) placed on adjacent floors of the structure.

PREPRINTS

Sharma, N., & **Saravanan, S**. (2021). Deep Learning Framework for Optical and Microwave Image Matching. https://doi.org/10.13140/RG.2.2.20314.88000/1

ACADEMIC ACHIEVEMENTS

100% Institute Merit Scholarship
· Offered by BITS for academic achievement in my 2nd, 3rd and 4th Semesters. Awarded each semester to top 1% of students of each batch based on CGPA.

Vertical Transfer
· Offered a chance to change my discipline to B.E Computer Science after my freshman year, by BITS, Pilani. It is only offered to exceptionally meritorious students.

TECHNICAL STRENGTHS

Programming	Python, Java, C, C++, C#, Assembly, MATLAB.
3D Modelling	Blender.
Game Engine	Unity3D, Unreal Engine.
Machine Learning	Python with Numpy, Pandas, Keras, TensorFlow and Pytorch.
Version Control	GitHub.

TEACHING

Teaching Assistant	CS F222 Discrete Structures for Computer Science,
	BITS F320 Foundations of Data Science.

ONGOING COURSE WORK & TEST SCORES

Ongoing

· Computational geometry, Artificial Intelligence.

GRE General Test 28th June, 2021

· 330/340 (Verbal Reasoning: 161 + Quantitative Reasoning: 169 + 4/6 Analytical Writing)