Siddhartha Gairola

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Education

2014 – 2019 (expected)	**Dual Degree B.Tech + MS by Research in Computer Science** , *International Institute of Information Technology, Hyderabad*, *CGPA − 8.98*.
2012 – 2013	**Senior Secondary, ISC**, *St. Joseph's Academy*, Dehradun, *93.6%*.
2010 – 2011	**Secondary, ICSE**, *St. Joseph's Academy*, Dehradun, *95.28%*.

Work Experience

Honours	**Honours at Center for Visual Information and Technology**, *IIIT Hyderabad, May, 2016 - Present*. Working under Prof. P.J. Narayanan in Computer Vision on Structure from Motion and Machine Learning.
Teaching Assistant	**TA**, *For Digital Logic and Processors, Artificial Intelligence, Digital Image Processing courses during Monsoon 2016, Spring 2017 and Monsoon 2017*.
Google Summer of Code	**Summer Internship**, *Scilab Enterprises, May 30, 2017 - August 29, 2017*. -The goal of the project was to provide a wrapper of Matlab MEX-Files headers on the current API Scilab

Achievements

Dean's List	Amongst top 10% of the class in Monsoon-2015, Monsoon-2016, Spring-2016, Spring-2017
ACM-ICPC 2015	Was a member of team **Pendulum** which qualified for the ACM ICPC regionals 2015 and secured an All India rank of 152 in the Asia Amritapuri Onsite Regionals
JEE Advanced	**All India Rank 2262**, *Among 150,000 students who appeared for the exam.*
JEE Mains	**All India Rank 3856**, *Among 1.2 million students who appeared for the exam.*

Publications

Data Driven Sky Replacement	Data-driven approach to sky-replacement that avoids color correction by finding a diverse set of skies that are consistent in color and natural illumination with the query image foreground. *Spring 2017* - This project got accepted as a full length 12 page paper in **MMM2018 @ Bangkok, Thailand** for oral presentation.

Projects

Hostel Portal Developed a hostel management portal using Web2py. *Spring 2015*

Linux C-Shell A linux like terminal implemented using C language using different concepts like fork,signals, exec, piping. *Monsoon 2015*

P2P File Sharing Developed an application layer file transfer protocol with support for TCP. It included features such as file upload, file download and indexed searching. *Spring 2016*

AI Bot Designed a computer bot to play the a modified version of Tic-Tac-Toe game.Using a Mini max algorithm and alpha-beta pruning. *Spring 2016*

2-D Game A 2 dimensional shooting game developed using OpenGl. *Spring 2016*

3D-Game A 3 dimensional game developed using OpenGl (GLFW library). *Spring 2016*

High Dynamic Range Images HDR imaging - generating images with a greater range of luminance levels than which can be achieved by taking only a single photograph with a fixed exposure. Using tone mapping, high-boost filtering and bilateral filtering for improvements. *Monsoon 2016*

Wiki-Search Engine Implementation of an efficient and scalable search engine on Wikipedia dump. Retrieve top relevant documents based on input query. Handled field as well as phrase queries. Documents were re-ranked based on tf-idf measure. For fast retrieval used threading and multi-level indexing. Monsoon 2017

Technical skills

Working Knowledge GNU/Linux, C, C++(STL), Bash, Python, Matlab, Octave, OpenCV

Past Experience OpenGL, WebGL, Django, Web2py, HTML5, CSS, Java

Programming and Open-Source

Programming Take part actively in competetive programming contests.
Codechef (handle: sidgairo18)
Codeforces (handle: sidgairo18)

Open-Source Contribute to open source regularly. Have made contributions to open source organizations like Scilab, LibreOffice and CCExtractor. (Github profile : sidgairo18)

Coursework

CS Computer Programming, IT Workshop, Computer Systems Organization, Data Structures, Algorithms, Introduction to Databases, Operating Systems, Artificial Intelligence, Computer Networks, Engineering Systems, Graphics, Digital Image Processing, Database Systems, Statistical Methods in AI, Computer Vision, Principles of Information Security, System and Network Security

Electronics Digital Signal Analysis and Applications, Digital Logic and Processors, Electrical Science 1, Basic Electronic Circuits

Maths Discrete Mathematics, Linear Algebra