

Sarthak Ahuja

CONTACT INFORMATION	AC-1/159A Shalimar Bagh New Delhi 110088, India	+91-9971496664 sarthak12088@iiitd.ac.in sarthakahuja.org												
RESEARCH INTERESTS	Artificial Intelligence, Computer Vision, Machine Learning, Image Processing, Computer Graphics													
EDUCATION	Indraprastha Institute of Information Technology , Delhi													
	Bachelor of Technology, Computer Science, <i>Expected:</i> Summer 2016	CGPA: 8.97												
	<ul style="list-style-type: none">• Thesis Topic: <i>Applications of Modern SLAM Systems</i>• Advisors: Dr. Saket Anand and Dr. Chetan Arora													
	Apeejay School , Pitampura, New Delhi													
	Senior School, Science, CBSE, May 2012	93.2%												
	<ul style="list-style-type: none">• Courses: <i>Physics, Chemistry, Mathematics, Computer Science and English</i>• A1 Grade in all courses													
	High School CBSE, May 2010	95.0%												
	<ul style="list-style-type: none">• Courses: <i>General Science, Social Studies, Mathematics, Hindi and English</i>• A1 Grade in all courses.• Perfect GPA 10/10.													
TECHNICAL ELECTIVES	<table><tbody><tr><td>1. Image Analysis</td><td>5. Pattern Recognition</td><td>9. Linear Optimization</td></tr><tr><td>2. Data Mining</td><td>6. Machine Learning</td><td>10. Prob. Graphical Models*</td></tr><tr><td>3. Mobile Computing</td><td>7. Artificial Intelligence</td><td>11. Information Retrieval*</td></tr><tr><td>4. Computer Vision</td><td>8. Computer Graphics</td><td>12. Human Centered Systems*</td></tr></tbody></table>		1. Image Analysis	5. Pattern Recognition	9. Linear Optimization	2. Data Mining	6. Machine Learning	10. Prob. Graphical Models*	3. Mobile Computing	7. Artificial Intelligence	11. Information Retrieval*	4. Computer Vision	8. Computer Graphics	12. Human Centered Systems*
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	*ongoing courses													
WORK EXPERIENCE	Project Lead, Swarath Lab- Autonomous Car Project May 2015 to present Supervisors: Dr. Saket Anand, Dr. Sanjit Kaul, Dr. Rahul Purandre IIIT-Delhi Member of IIIT-Delhi's core team in the Driverless Car Challenge by Mahindra . Conducted workshop sessions on Git, ROS and OpenCV. Led a team of 2 and designed the test suite and perception module in ROS/C++.													
	Head, Product(Web), Meri Awaaz September 2014 to present Supervisor: Aditya Kumar Nayak Mutiny Labs Product Head at a one year old start up aimed at bridging the gap between politicians and citizens by developing the perfect complaint redressal system - meriawaazapp.com													
	Research Intern, Computer Vision and Machine Learning December 2014 to January 2015 Supervisor: Dr. Saket Anand IIIT-Delhi Worked on image segmentation based on semi-supervised metric learning. Work involved performing literature survey on superpixel and graph based approaches for image segmentation and writing code for superpixel based graph cuts to perform the figure/ground segmentation.													
	SDE Intern, Lava International June 2014 to August 2014 Supervisor: Mr. Mayank Kumar Lava Intl., Noida Co-op at the IT Department of Lava International working on designing and handling Tertiary Systems. Worked as a SAP ABAP Trainee in the Technical Team. Part of the team designing the call center system for XOLO services.													
	SDE Intern, MoMagic Technologies June 2014 to August 2014 Supervisor: Mr. Pushkar Sharma MoMagic., Noida Worked as a Co-op Android Application Developer and trainee. Developed a commercial application HandsFree, a driver assistance application. Got exposed to application testing.													
	Department Lead, CIM, AIESEC August 2013 to April 2014 Supervisor: Vineet Arora Delhi University Worked as Team Leader in the Communication and Information Management Department. Organized youth conferences and events. Developed and handled their websites, wikis, business intelligence reports and creatives.													

SELECTED
PROJECTS

- Applications of Modern SLAM Systems** March 2015 onwards
Advisors: Dr. Saket Anand and Dr. Chetan Arora B.Tech. Project
Project aimed at applying SLAM systems to egocentric videos to track head motion of the subject.
Also building a driver assistance system by using SLAM as a local GPS system.
- Distress Detection** August 2014 to July 2015
Advisor: Dr. Sanjit Kaul Independent Project
An android application which uses audio data and machine learning algorithms to collect and analyze nearby data to detect distress activity in the surroundings.
- Multi-Sensor Data Fusion for Human Activity Recognition** August 2015 to November 2015
Advisor: Dr. Richa Singh Course Project (Team Size: 2)
Performing data fusion between two architectures for human activity detection namely wearable sensors and egocentric cameras in an attempt to improve the overall performance of the system.
- Multi-Agent Path Planning for Warehouse Butlers** August 2015 to November 2015
Advisor: Dr. Sandeep Aine Course Project (Team Size: 2)
Implementing the MAPP Algorithm by Ko-Hsin Cindy Wang and Adi Botea in a warehouse simulation to identify potential points of failure and factors affecting the quality of the solution.
- Kinect Driven 2D Mesh Animation with OpenGL** August 2015 onwards)
Advisor: Dr. Ojaswa Sharma Course Project (Individual)
Project on animating a 2D mesh character in QT and driving its actions through the skeleton obtained from kinect kinect. Currently working on automatic rigging to map skeletons automatically.
- Image Colorization using Chrominance Blending** August 2014 to November 2014)
Advisor: Dr. Mayank Vatsa Course Project (Team Size: 2)
Implementing and Analyzing the performance of Chrominance Blending Technique proposed by Liron Yatziv and Guillermo Sapiro in their paper on the same as compared to other conventional Algorithms.
- Detection of Prolonged Narcotic Users using Face Images** January 2015 to May 2015)
Advisor: Dr. Richa Singh Course Project (Team Size: 2)
The project involved the evaluation of prevalent pattern recognition techniques to perform binary classification on a in-the-wild dataset of Mugshot Images of drug addicts.
- CoDrive: Crowd Sourced Memory Sharing** January 2015 to May 2015)
Advisor: Dr. Rahul Purandre Course Project (Team Size: 4)
A crowd-sourcing based android application to allow temporary sharing of phone memory space among peers easily and securely. Introduction to Static Code Analysis and Design Patterns.
- ReWise: In-Class Quizzing Application** August 2014 to November 2014
Advisor: Dr. Vinayak Naik Course Project (Team Size: 5)
An android application to hold quick in-class quizzes. Intuitive UI, Ever Growing Question Bank, Statistical Analysis of Quizzes as well as Individual Performances and Gamification using Badges.

EXTRA-
CURRICULAR
ACTIVITIES

- Elected Member of the [Student Council](#). April 2015 onwards
- Disciplinary Action Committee Student Representative. April 2015 onwards
- Member of the Core Organizing Committee Esya 14 May 2014 to September 2014
- Member of the Placement Committee IIIT-Delhi January 2015 onwards
- Organizing Team IIIT-Delhi Research Showcase 14 and 15 February 2014 and February 2015
- Organizing Team IIIT-Delhi Freshers Induction 13 and 15 August 2013 and August 2015
- Founder and Club Administrator [Ink](#). (Design Club) August 2014 onwards
- Founder and Core Member IIIT-Delhi Media Panel January 2015 onwards
- Club Administrator [Foobar](#) (Programming Club) January 2015 onwards
- Club Administrator [MadToes](#) (Dance Club) September 2013 to April 2014

SELECTED
AWARDS

- First Prize in the Technical Paper Presentation event at Cogenesis 2016, Delhi Technological University for "Multi-Sensor Data Fusion for Human Activity Recognition".
- First Prize in the Project Showcase Event at IIIT-Delhi Research Showcase 2015 for "Distress Detection".
- Finished in the top 10(Out of 40 teams) of Androidathon held in July 2014 at 91springboard for developing and pitching "Sticky Agent", a group messaging service for customer complaint redressal.
- Merit Certificate in the National Mathematics Olympiad (2009) from DAMT.
- Inspire Internship Program (2010) - Department of Science and Technology, Govt. of India.
- Distinction in the Educational Assessment conducted by University of New South Wales, Australia (2008) top 2% of Participants in Delhi in Mathematics.

TEACHING
EXPERIENCE

Online Course Instructor

Summer 2013

CSE131 - System Management, IIIT-Delhi

Instructor: Dr. Amarjeet Singh

Designed content for locally hosted edX course used by a batch of approx. 170 freshmen.

Teaching Assistant

Monsoon 2014

CSE101 - Introduction to Programming, IIIT-Delhi

Instructor: Dr. H. B. Acharya

Core programming course offered to a batch of approx. 170 freshmen.

Teaching Assistant

Winter 2014-15

CSE102 - Data Structures and Algorithms, IIIT-Delhi

Instructor: Dr. Sandeep Aine

Core programming course offered to a batch of approx. 170 freshmen.

Workshop Assistant

Summer 2015

Swarath - Autonomous Car Project, IIIT-Delhi

Instructor: Dr. Saket Anand and Dr. Sanjit Kaul

Gave sessions on Git and programming in ROS/C++ to a batch of 40 interns.

Teaching Assistant

Monsoon 2015

CSE201 - Advanced Programming, IIIT-Delhi

Instructor: Dr. Chetan Arora

Core programming course offered to a batch of approx. 120 freshmen.

Teaching Assistant

Winter 2016

CSE344/544 - Computer Vision*, IIIT-Delhi

Instructor: Dr. Saket Anand

*ongoing

SKILLS

Programming Languages

- Matlab, C, C(Basics), C++, Python, Java SE, Android Java, HTML, CSS, PHP, ABAP for SAP, Ruby, Javascript, R(Basics), SQL

Tools and Technologies

- Visual Studio, Ruby on Rails, Django, PHP, Android SDK, Eclipse, Jekyll, ROS, NetBeans, Latex, photoshop, illustrator, InDesign, git, SVN, QT

HOBBIES

Graphic Designing

I am a freelance graphic and web designer having completed quite a few projects over the past three years. A glimpse of my work can be seen at behance.net/sarthakahuja. My interest and passion towards designing also led me to starting a design club in my institute [Ink](#). in 2014.

3D-Modelling

During my first year, as part of a self-learning project I got introduced to 3D-modelling in Maya. Out of interest I took a design internship under Dr. Saket Anand in my second year which involved making a 3D-model of my Institute in Google Sketch-Up. This project is now being taken forward as "The Virtual Campus" project by a team on campus. One of my designs can be seen [here](#).

REFERENCES

Dr. Saket Anand

Assistant Professor, IIIT-Delhi

Computer Vision

Phone: 011-26907425

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Dr. Sanjit Kaul

Assistant Professor, IIIT-Delhi

Wireless Networks

Phone: 011-26907457

E-mail: skkaul@iiitd.ac.in

Dr. Chetan Arora

Assistant Professor, IIIT-Delhi

Computer Vision

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E-mail: chetan@iiitd.ac.in

*For more details on projects(source code, relevant links) and other activities please visit sarthakahuja.org