Aditi Singh

Research Assistant at University of Houston

787aditi@gmail.com

Experience

Research Assistant at University of Houston
September 2016 - Present (2 months)

Student at Indian Institute of Technology, Madras
August 2011 - Present (5 years 3 months)

Visiting Research Scholar at Cold Spring Harbor Laboratory
May 2015 - July 2015 (3 months)
Worked on cell segmentation of mouse brain Nissl images.

Embedded Systems Intern at Eaton
May 2014 - July 2014 (3 months)
Worked on FPGA implementation of controllers for real time applications.

Image Processing Intern at Renault Nissan Automotive India Pvt Ltd.
May 2013 - July 2013 (3 months)
Worked on road map generation from the video input of camera placed on the host vehicle, using image processing application.

Design Coordinator at Shaastra, IIT Madras
2013 - 2013 (less than a year)

Volunteer Experience

Volunteer, Junkyard Wars Event at Shaastra, IIT Madras
September 2011 - Present

Volunteer, Fine Arts Event at Saarang
January 2012 - Present

Languages

English (Full professional proficiency)
Hindi (Native or bilingual proficiency)

Projects

FREEHAND

January 2013 to Present

Members:Aditi Singh, Jay Rambhia

Assistance system for the blinds and autistic children to learn to write and draw.

All Terrain Drone

May 2012 to February 2013

Members:Aditi Singh, Sripriya Kalidoss, Vishwa Sai Prathyusha, Ashish Mohan Sharma

An off road vehicle which can navigate through obstacles and can travel on all kinds of terrain , capable of working both manually as well as in autonomous mode , and send live videofeed.

Intelligent Ground Vehicles Competition

May 2012 to Present

Members:Aditi Singh, Sripriya Kalidoss, Vishwa Sai Prathyusha, Suraj Kashyap, Surya Pavan Pynda, Gagan Khandate, Ashish Mohan Sharma

The Intelligent Ground Vehicle Competition (IGVC) is an annual international robotics competition conducted by the United States Army Tank Automotive Research, Development and Engineering Centre (TARDEC) and the Association for Unmanned Vehicle Systems International (AUVSI).It is conducted annually in Oakland University in Rochester, Michigan.

The 22nd iteration of the competition is scheduled to be organised from the 6th – 9th of June, 2014. Competing with over 100 universities all over the globe, the competition entails design experience that is at the very cutting edge of engineering education. This is the first time IIT Madras will be participating in the competition. A 15 member team, Team Abhiyan had started preparing for the competition started in 2012 and since then the team has worked on several designs and iterations for algorithm development. The problem statement for the competition has not been completed by any team in the past 20 years, IIT Madras however aims to complete the entire competition challenge and this we intend to do through thorough testing and iterations.

Education and learning platform for students with Cerebral palsy

January 2015 to Present

Members:Aditi Singh, Kunal Grover

Number Plate Recognition

December 2014 to Present

Members:Aditi Singh, Kunal Grover

Automatic capture of nameplate of vehicle from an image of a stationary or an almost stationary vehicle, process and output the characters and numbers on the vehicle number-plate. Won the 'Number Plate recognition challenge ' conducted by Wipro for our solution.

Signal Based Implementation of Touch Input for Computer Displays

October 2013 to January 2014

Members:Aditi Singh, Chaitanya Peddawad, Amit Kulkarni, Abhishek Narwekarni, nimit jain, Reena Elangovan

Designed hardware on experimental basis, which when attached to the display of non-touch screen, computer will enable the users to use the display as an interface for touch inputs.

Refreshable Braille Display

January 2014 to March 2015

Members:Aditi Singh, Chaitanya Agrawal, Sravan Paritala

- Successfully designed and tested a prototype which converts digital text file to refreshable Braille characters.
- Diagnosed the requirements of 50+ visually challenged children using self-designed assessment techniques.
- Incorporated an ingenious mechanism with an estimated decrease in cost by 65% from the existing models.

ReadIt

July 2015 to October 2015

Members:Aditi Singh, Kunal Grover

ReadIt is an Android application which acts as "eyes" for the visually impaired, by reading out text from books, documents and labels. We aim at creating an alternative to the expensive braille printing.

Skills & Expertise

Python
Matlab
C++
C
LaTeX
Algorithms
Linux
Programming
Computer Vision
Image Processing
Teamwork
OpenCV
Verilog
Windows
Microsoft Office
Microsoft Excel
PowerPoint
Microsoft Word
FPGA

Education

University of Houston

Doctor of Philosophy (Ph.D.), Electrical and Electronics Engineering, 2016 - 2021

Indian Institute of Technology Madras

Dual degree(Btech. + Mtech.), Electrical and Electronics Engineering, 2011 - 2016

Dr. VSEC

1998 - 2010

Courses

Student
Indian Institute of Technology, Madras
Image Signal Processing
Introduction to Machine Learning
Computational Neuroscience

Certifications

Duolingo French Fluency: Beginner (Estimated)
Duolingo December 2015

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Contact Aditi on LinkedIn