

Current Projects

- **AUVSI Robosub 2013, San Deigo, CA** *(September 2012 to Present)*
 - Designing and developing an unmanned autonomous underwater vehicle (AUV) that localizes itself and performs realistic missions based on feedback from visual, inertial, acoustic and depth sensors.
 - Working with the software sub-division on localization and navigation of the vehicle by fusing various sensor data using kalman filtering and updating the motion controller
- **High Level Synthesis using Legup** *(Guided by Prof. S. Patkar, September 2012 to Present)*
 - Working under High Power Computing Lab, EE Dept. on HLS to implement a memory model using stacks or queues to improve the synthesis of specific applications with regular and iterative
 - Building up on legup infrastructure to analyze different high level synthesis techniques

Google Summer of Code - GSoC'12

Worked on a FOSS project **Gnucap plugin for schematic files**

(May 2012 to August 2012)

- Worked under organisation 'The GNU Project' on the project Gnucap (GNU Circuit Analysis Package)
- Implemented a plugin to convert a schematic of a circuit into Verilog-AMS netlist and vice-versa.

Academic Projects

- **Technology Mapping - VLSI CAD** *(In Progress)* *(Guided by Prof. S.Patkar, EE677 - Autumn 2012)*
 - Modeling the problem of technology mapping as a tree covering problem using pattern trees.
 - Implementing using python graph-tool library
- **Traveling Message Display** *(Guided by Prof. M.B.Patil and J.John, EE214 - Spring 2012)*
 - Worked in a team of 3 to display a scrolling message on an LED Array using FPGA DE0 NANO
 - My work involved writing verilog modules for taking input from the keypad and processing it.
- **Simulation of Micromouse** *(Guided by Prof. Deepak B. Phatak, CS101 - Autumn 2010)*
 - Led the team of 12 members in designing and solved $n \times n$ mazes them for the minimum path using Bellman-ford algorithm in C++ and simulated using EzWindows GUI.

Scholastic Achievements

- **AIR 61** of out 4.55 lakh students in IIT-JEE (Joint Entrance Examination) - 2010
- **AIR 3** of 18000 students in NEST (National Entrance Screening Test)-2010
- Secured **AIR 5** in the XXXIX National Mathematics Talent Competition (NMTC)-2007 conducted by Association of Mathematics Teachers of India (AMTI).

Technical Skills

- **Programming Languages:** C++,Java,Python,Ruby **Operating Systems:** Linux-Ubuntu, Windows
- **Tools:** Matlab, Mathematica, Scilab, Latex, Photoshop **Web designing:** HTML, CSS, Javascript
- **EE tools:** Spice, Verilog-HDL, Verilog-AMS , Arduino

Technical Activities

- Yahoo! HackU -2012: Built an android app and web interface, 'MapIt' which can be used to create customizable maps of localities with greater information
- Trackmania-2010 : Built a remote-controlled four-wheeled car (bot).
- Line-follower competition-2011 :Built a line-following bot using IR sensors and Arduino.