

**Amit Somani**

**Dept. of Electrical Engineering**  
**Indian Institute of Technology, Patna**

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## Educational Qualifications

Education Details	Board/University	Institute	CPI / %	Year
Pursuing (B. Tech 7 <sup>th</sup> semester)	IIT Patna	IIT Patna	8.29/10	2012-2016
Intermediate/+2	C.B.S.E.	Springdale's School, Kota	86.4%	2011-2012
Matriculation	C.B.S.E.	St. Paul's School, Kota	9.6/10	2010-2011

## Work Experience

**Summer Intern | Research and Technology Center, Robert Bosch engineering and Business Solutions, Bangalore** **May – July 2015**

*Project:* Study of Object Pose Estimation in 3D point cloud based on Object tracking

*Guide:* Dr. Guruprasad Mahabaleshwar Hedge

*Description:* A system that tracks the motion of a marked 3d Object in 3D space and estimate the 3D rotation in the space which can then be used to move the motor in the Microsoft Kinect Sensor and track the motion. Although the pose was estimated in 3D but the motion in the Kinect sensor was only in one direction as it is restricted to one degree of freedom. Project involved use of C++ coding language, OpenCV for image processing and Point Cloud Library for Point Cloud processing.

## Academic Projects

### 1) Data transmission over underwater acoustic channel

*Guide:* Dr. Preetam Kumar, Dept. of Electrical Engineering, IIT Patna

*Description:* Studying image transmission using modulation techniques like BPSK, QPSK, and DQPSK as well as multi carrier modulation schemes like Orthogonal Frequency Division Multiplexing (OFDM) and comparing different modulation scheme. A lab setup was made for the experimentation and the model for different modulation schemes was developed in MATLAB.

### 2) Lab Project: BPSK Modulation and Synchronous Detection

*Guide:* Dr. Sumanta Gupta, Dept. of Electrical Engineering, IIT Patna

*Description:* Project involved designing a wired BPSK modulation and demodulation circuit and building it on a PCB board after making the circuit layout on Diptrace.

### 3) SAE BAJA INDIA 2015 (All- terrain vehicle)

*Guide:* Dr. Mayank Tiwari, Dr. Akhilendra Singh, Dept. of Mechanical Engineering, IIT Patna

*Description:* Designed electrical system of an all-terrain vehicle with electrical gauges, Lights, alarm and engine kill switches.

## Software Skills

C      C++      MATLAB      Verilog HDL      LaTeX      LTspice

## Leadership and Positions of Responsibilities

**Technical Coordinator | Rural Technology and Development Club | IIT Patna** **July 2014- July 2015**

1) Founded the rural technology and development club at IIT Patna.

2) Worked as technical coordinator leading the survey teams to various villages nearby Patna and setting up contacts with various organization for projects.

**Sub - Coordinator | Hospitality Team | IIT Patna** **July 2013-July 2014**

1) Worked as sub-coordinator for college festival and managed various guest and tie ups with hotel for sponsorship, accommodation, food and beverages.

## Extra-Curricular Activities

### Music

1) Founder and drummer of college band "Half- Step Down"

**2013 – Present**