

Abhinav Agarwal

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EDUCATION

- 2014–present **B.Tech in Electrical Engineering**, *IIT Kharagpur*.
CGPA - 9.45 (on scale of 10)
- May 2014 **12th Grade**, *CBSE*, New Delhi.
Aggregate - 95.4%
- May 2012 **10th Grade**, *CBSE*, New Delhi.
GPA - 9.4 (on scale of 10)

COURSEWORK

Undergraduate.

- Algorithms (with lab)
- Programming and Data Structures (with lab)
- Maths-1,2 and Transform Calculus
- Financial Institutions and Markets

EXPERIENCE

Kharagpur Robosoccer Students' Group

- Feb 2015 **Artificial Intelligence Team Member**.
–present KRSSG is SRIC (IIT Kharagpur) sponsored project (as a part of CFER) with Prof. Jayanta Mukhopadhyay as the principal investigator. KRSSG won bronze in FIRA 2015.
- Robocup3d Simulation League.**
KRSSG is first Indian team to qualify for Robocup3d simulation which is scheduled to be held at Germany in July 2016.
- Implemented basic skill and utilities from scratch
 - Deriving full team formation using Delaunay Triangulation
 - Implemented Dynamic Role Assignment with active collision avoidance
 - Implemented Inter-Bot Communication
 - Represented KRSSG in Robocup2016 at **Leipzig, Germany**
- Code-O-Soccer.**
Code-O-Soccer is a coding competition conducted by KRSSG.
- Documentation
 - Implemented a windows batch script to automate the evaluation process.

National Digital Library Project

May 2016 **Internship.**

- present NDL is a flagship initiative of MHRD with Prof Sudeshna Sarkar (CSE, IIT Kgp) and Prof P.P. Chakrabarti (CSE, IIT Kgp) as Principal Investigators.
 - Implemented spell check using aspell linux utility.
 - Implemented metadata normalization using regex pattern matching.

Deep Learning Neural Networks Project

Dec 2015 **Research Project.**

Research Project under Prof. Debdeep Sheet

- Implemented denoising and dropout Autoencoder in theano (python)

Image Processing Winter Workdhop

Dec 2014 **Participant.**

Attended IEEE certified, Computer Vision workshop.

- Implemented blob detection, noise reduction, edge detection in OpenCV

Open Source Contributions

- Dec 2015- **Contributor**, SymEngine | Sympy | C++.
- March 2016 SymEngine is a fast C++ symbolic manipulation library.
 - Successfully merged 17 pull requests pushing total 56 commits.
 - Listed as author in symengine.
 - Author of the talk *SymEngine: A Fast Symbolic Manipulation Library* in Scipy2016 at **Texas (USA)**.

SKILLS

Language	English, Hindi
Programming Languages	C, C++, Python, Latex, Java
Concepts	OOPS, STL, Multithreading, Data Structures & Algorithms, Image Processing, Regex
Platforms	Windows, Linux
Tools	Git, Bash, Batch scripting, Matlab, Apache Solr, Protobuf, OpenCV, Theano

ACHIEVEMENTS

- Department rank 2 (out of 110 students (approx))
- Qualified for **ACM-ICPC** (2015) Amritapuri regionals.
- Secured rank in top 0.1% in JEE Mains 2014 (out of 1.3M students (approx))
- Secured rank in top 0.5% In JEE Advanced 2014 (out of 0.15M students (approx))
- Achieved Excellent (EX) grade in Programming and Data Structures, Algorithms.
- Represented second year students of Electrical Engineering department in meeting with chairman of Board of Governors of IIT Kharagpur.
- Represented KRSSG in Robocup2016 at **Leipzig, Germany**
- Author of the talk *SymEngine: A Fast Symbolic Manipulation Library* in Scipy2016 at **Texas (USA)**.