

# R NARESH

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNDERGRADUATE STUDENT AT INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR

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## EDUCATION

2013-2018 (EXPECTED)	B.Tech and M.Tech (Dual Degree) in COMPUTER SCIENCE AND ENGINEERING <b>Indian Institute of Technology, Kharagpur</b>	CGPA: 7.28/10.0
2013	Class XII, CENTRAL BOARD OF SECONDARY EDUCATION (CBSE) <b>Maharishi Vidya Mandir SSS, Chennai</b>	SCORE: 95.6%
2011	Class X, CENTRAL BOARD OF SECONDARY EDUCATION (CBSE) <b>Kendriya Vidyalaya Picket, Hyderabad</b>	CGPA: 10.0/10.0

## TECHNICAL SKILLS

PROGRAMMING	<i>Proficient:</i> C, C++, Python, Java <i>Familiar:</i> Javascript, Scala, C#
LIBRARIES/PLATFORMS	Node.js, AngularJS, Express, jQuery, D3, Socket.io
MARKUP/TEMPLATING	HTML, CSS, Mustache/Handlebars, Liquid
DATA/DATABASES	SQL, MongoDB, PostgreSQL
SCM/SYSTEMS	Git, AWS (RDS, S3, Redshift, DMS, Data Pipeline)
SOFTWARES	ROS, git, $\text{\LaTeX}$

## ACADEMIC PROJECTS

CURRENT	<b>Data extraction from biomedical literature for automating systematic reviews</b> <b>B.Tech Project</b> <b>Guide:</b> <a href="#">Professor Pawan Goyal</a> <ul style="list-style-type: none"><li>- Worked on feature detection of a particular class of text (specifically, inclusion and exclusion criteria for patients) from a huge collection of biomedical literature using NLP Techniques with high precision and recall.</li><li>- Methods used include Support Vector Classifier (Scikit-learn), Latent Dirichlet Allocation (LDA) and Weighted Keyword Matching.</li></ul>
MAY 2016 JUNE 2016	<b>Software Development Intern</b> <b>ezDI, Ahmedabad</b> <ul style="list-style-type: none"><li>- Worked on a team involved on integrating a Business Intelligence tool that aggregates data from all their products and makes the data available for easy analytics.</li><li>- Was solely responsible for migrating the data to a datawarehouse (Amazon Redshift) including schema conversion and data type incompatibility handling, and built a custom server on nodejs using AWS APIs to manually replicate data and changes to it from RDS to Redshift through S3 at regular intervals.</li><li>- Implemented several proof-of-concepts to integrate a BI solution with embedding capabilities and using REST APIs to communicate with ezDI's existing platform and setup the base models for the team on Looker™ to be able to take full advantage of reusable SQL views.</li></ul>
APRIL 2016	<b>Selene (A COMMUNITY BASED MUSIC-RECOMMENDATION ENGINE.)</b> <b>Guide:</b> <a href="#">Professor Pabitra Mitra</a> <ul style="list-style-type: none"><li>- Built an app that serves as a social music-recommendation engine based on YouTube that extracts usage data from <i>Selene</i> users who fall under a branch length of 5 nodes in a user's Facebook friends graph, and based on your preferred genre, recommends music you might like.</li><li>- The app was built following material-design guidelines, and integrated with Musixmatch to parse the YouTube links and get relevant metadata to provide direct links to other services such as Spotify and Soundcloud.</li></ul>
APRIL 2016 MARCH 2016	<b>Retrieving salient sentences from Reddit AMAs</b> <b>Guide:</b> <a href="#">Professor Pawan Goyal</a> <ul style="list-style-type: none"><li>- Built a web-based summariser that provides summaries from /r/iAMA with abilities to choose any AMA from a list or through instant search (implemented with Angular autocomplete.)</li><li>- After obtaining data from the web crawler, LDA model training was done on the entire dataset and categorised using link flairs on Reddit. k-mean clustering was then used to cluster the questions and answers and summarised using lexrank and summypy. Concept tagging was then done using Alchemy API on each cluster.)</li></ul>

APRIL 2016 FEB 2015	<b>Kraken 3.0 (AUTONOMOUS MOBILE ROBOT)</b> <b>Group:</b> <a href="#">Autonomous Underwater Vehicle Research Group</a> , IIT Kharagpur <b>Guide:</b> <a href="#">Professor C. S. Kumar</a> - Worked in the Image Processing Team to implement algorithms in OpenCV for the bot to successfully complete multiple tasks including Buoy detection and path following. Was part of the group implementing machine learning algorithms to better detect colours underwater using dynamic thresholding. - Got familiar with designing and implementing the control stack of the bot and scheduling tasks to run on the system using ROS.
APRIL 2015	<b>Medical Lab Automation System</b> <b>Guide:</b> <a href="#">Professor Partha Pratim Das</a> - Developed a software based on JAVA for a Medical Lab Automation System which handles and automates the requests of the management and patients including the scheduling of tests, managing stocks, etc. - 3 separate records were maintained for handling the tasks and SQL was used for interfacing with the database.

## ADDITIONAL PROJECTS

APRIL 2016 MARCH 2016	<b>Data Extractor from 2D plots</b> <b>OpenSoft 2016</b> - Worked on a team of 15 as a part of my hostel's team in OpenSoft 2016 to build a graph extractor that detects plots in any PDF and plots the values in a tabular format. - Was primarily responsible for detecting and scaling the ticks from the color segregated image and scale it appropriately using the axis values and generate the plot. Was also solely responsible for generating the table structure using Python libraries and to fully build a working GUI for the application on Java Swing.
MARCH 2015	<b>Campus Connexions</b> <b>Deveoped at Microsoft Code.Fun.Do 2015</b> - Developed an intra-college social networking app with real time feed from registered users that would serve as a platform for official and unofficial announcements within the college. Windows Azure was used for database management and development was primarily done with Visual Studio. - Was solely responsible for building the complete front end for the app, and to connect with Azure to dynamically load content in the news feed.
DEC 2014	<b>Object Follower Robot</b> <b>Group:</b> <a href="#">Technology Robotix Society</a> , IIT Kharagpur - Using the openCV library, built the image detection algorithms for a WSAD robot which can follow the path using the directives sent by overhead camera whose recorded images were processed and the movement instructions were generated.
DEC 2013	<b>Lane Follower Robot</b> <b>Group:</b> <a href="#">Technology Robotix Society</a> , IIT Kharagpur - Developed an autonomous line following robot using Atmel AVR microprocessor(Atmega16) in an IEEE certified workshop organized by Technology Robotix Societiy, IIT Kharagpur.

## POSITIONS OF RESPONSIBILITY

CURRENT	<b>Executive Editor</b> , Technology Literature Society, IIT Kharagpur
APR 2016	<b>General Secretary</b> , CodeClub, IIT Kharagpur
APR 2015	<b>Team Member</b> , Google Students Club, IIT Kharagpur

## COURSEWORK

(T)HEORY AND (L)ABORATORY

- Programming and Data Structures (T/L)	- Compilers (T/L)
- Algorithms-I (T/L)	- Computer Organisation and Architecture (T/L)
- Discrete Structures	- Matrix Algebra
- Software Engineering (T/L)	- Database Management Systems (T/L)
- Formal Languages and Automata Theory	- Operating Systems (T/L)
- Switching Circuits (T/L)	- Computer Networks (T/L)
- Algorithms - II	- Information Retrieval

## SCHOLASTIC ACHIEVEMENTS

- Secured 99.33 percentile in JEE Mains 2013	- Secured 98.11 percentile in JEE Advanced 2013
- Secured AIR 415 in ACM ICPC – Amritapuri online round	