



# Midhul Varma

Roll Number : 130101047  
B.Tech - Computer Science & Engineering  
Minor in Physics  
Indian Institute of Technology Guwahati

+91-8011033522  
midhul.v@gmail.com  
midhul@iitg.ac.in

## Education

Year	Degree / Certificate	Institute / Board	CGPA/Percentage
2013 - 2017	B.Tech	Indian Institute of Technology, Guwahati	9.12 (Current)
2011 - 2013	Senior secondary	BIE Andhra Pradesh	96.7%
2011	Secondary	CBSE board	9.6

## Experience

- **Software Development Engineering Intern at Microsoft IDC** *May 2016 - July 2016*  
Developed technology for Automatic Verification of User submitted feedback for Bing Local Search Entities using information available on business websites and aggregators.

## Projects

- **WebRTC based Peer Assisted Video Streaming** *Ongoing*  
*Dr. T. Venkatesh*  
Working towards building a purely browser based and plugin free mechanism for video streaming which can make use of the uplink bandwidth of peers who are simultaneously watching a stream to reduce load on the streaming server and improve user Quality of Experience (QoE). Technologies being used are **WebRTC**, **WebSockets** & **Node.js**
- **Search Engine for Wikipedia Pages** *Aug 2016*  
*Dr. S. Ranbir Singh*  
Indexed a subset of Wikipedia's english language pages and implemented a search engine using IR library **whoosh (Python)**. Developed a **REST API** to serve search queries on the index and a corresponding web front end. Relevance of results was computed using **TF-IDF** and **BM25** schemes.
- **Compiler for a C Like Programming Language** *Apr 2016*  
*Dr. Arnab Sarkar*  
Designed a small statically typed programming language with syntax similar to C and implemented a compiler capable of generating **MIPS** & **x86\_64** assembly code, in **C++** using **Flex** and **Bison**.
- **Pintos Projects** *Oct 2015*  
*Dr. G. Sajith*  
Completed Stanford University's Pintos Projects 1 & 2, which involved implementing parts of the Pintos operating system including scheduling algorithms and core system call functionality.
- **ALL-JS: Assembler, Linker, Loader & Simulator** *May 2015*  
*Dr. Santosh Biswas*  
Implemented a two-pass assembler, linker, loader and simulator for a subset of the **8085** micro-processor instruction set, all in pure **javascript**. All the entities were coupled into a single page interactive user interface which runs directly on the browser with no other dependencies.
- **Vehicle Management System** *Apr - May 2015*  
*Dr. P.K. Das*  
Worked in a team of 20 students to build a vehicle management system which provides various facilities to vehicle owners & security personnel through web and android applications. Designed and implemented a **RESTful API** on the server side using **Django** REST framework, and supporting client side library for the **Android** platform.

---

## Technical skills

- **Programming languages** : C, C++, Python, Javascript (Node.js), C#, SWI-Prolog, Java \*
- **Web technologies** : HTML, CSS, Express, Django \*
- **Database systems** : MySQL, LevelDB
- **Miscellaneous** : Android \*, LaTeX, IDA Pro, Wireshark, OMNET++ \*
- **Operating system** : Windows, Linux

*\* Elementary proficiency*

---

## Key courses taken

- |                                |  |
|--------------------------------|--|
| • Algorithms                   | • Data Structures (+lab)               |
| • Theory of Computation        | • Formal Languages & Automata Theory   |
| • Computer Architecture (+lab) | • Operating Systems (+lab)             |
| • Computer Networks (+lab)     | • Compilers (+lab)                     |
| • Database Systems (+lab)      | • Computer Graphics (+lab) *           |
| • Information Retrieval *      | • Computer Vision & Machine Learning * |
| • Internet Protocols *         | • Programming Languages lab *          |

*\* To be completed in Nov 2016*

---

## Achievements

- Ranked **6th** in Microsoft's **Build the Shield** Capture the Flag (CTF) 2016 Qualifier contest.
  - Ranked **53rd** in **ACM ICPC 2016** Chennai region online contest out of **1,100 teams** all over India.
  - Ranked **124th** in **ACM ICPC 2016** Amritapuri region online contest out of **1,500** teams all over India, and competed with the top 300 teams in the onsite contest.
  - Shortlisted for the **Aditya Birla Group Scholarship** 2013 among 27 students from all over India
  - Shortlisted for the prestigious **KVPY Fellowship** 2012, Department of Science & Technology, Govt. of India
  - Secured **All India Rank 821** in JEE (Joint Entrance Examination) Advanced 2013 out of **1,50,000** candidates
  - Secured **All India Rank 251** in JEE Mains 2013 out of around **1.4 million** candidates
  - Placed in **National top 1%** out of **40,721** candidates in the National Standard Examination in Physics (NSEP)
  - Qualified state level Pre Regional Mathematics Olympiad 2012
  - Qualified for the final **International round** of the International Autonomous Robotics Competition (iARC), held at Techkriti'14, IIT Kanpur, among 2 teams from India
- 

## Extracurriculars

- Won and participated in various robotics and electronics events in Kriti 2014 & 15 (Inter-hostel technical competition)
- Participated and successfully built an application in Microsoft Code.Fun.Do 2015 using Azure Cloud Services & Bing maps API
- Regular participant in online programming contests, hackathons and other programming activities.