

# Gurshabad Grover

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## Objective

I am a technology student aspiring to leverage my skills to solve challenging problems with an iron-clad work ethic and an ability to think through problems quickly & effectively.

## Work Experience

**Raindrop** May 2015 – Aug 2015  
**In-house entrepreneur**

Developed a mobile-first journaling & note-sharing application at an amazing pace, and successfully pitched the startup to investors.

**Zenatix** May 2014 – Aug 2014  
**Design & Development Intern**

Designed & edited commercial two-pagers and technical white papers in addition to developing the website under the guidance of industry pioneers in an emerging analytics company.

Technologies: PHP, Python, Javascript

**Find A Way** Sep 2013 – Dec 2014  
**Co-founder**

As in charge of the design and operatives of the technology-based NGO, I coordinated deals with restaurants in addition to developing and managing a website & a database. Our initiative funded the education of four underprivileged students.

**IIIT-Delhi Admissions** Dec 2013 – May 2014  
**Software Development Intern**

Created the web application that handles PhD admissions at the institute.

Technologies: Django (Python), CSS, Javascript

## Skills

Programming & CS research  
(Proficient in Python, C, C++, Java)

Software & website - development & security  
(Proficient in PHP, Django, CSS, Javascript, jQuery)

## Research Experience

**IIIT-Delhi** Jul 2015 – Present  
**Message Logic in Robots**

Under the mentorship of Dr. Sebastian Elbaum (UNL), Dr. Rahul Purandare and Dr. PB Sujit (IIIT-Delhi); I am working on challenging software engineering problems. With the application of static program analysis, we aim to solve interesting problems in distributed systems, and suggest ways to improve their performance.

Technologies: C++, ROS, Clang, KLEE

**Swarath** May 2015 – Aug 2015  
**Software Development Intern**

Engineered the software architecture of perception modules of the autonomous vehicle, and developed frameworks for sensors and unit tests.

Technologies: C++, ROS, openCV

## Misc. Work Experience

### Freelance developer

I have worked with various web technologies to develop and maintain various websites:

- iSOFT, ACM
- Alumni Association (Delhi), UIUC
- IIIT-Delhi
- And various startups

## Notable Projects

### Automated e-rickshaw steering

Developed a steering model for an e-rickshaw for the *Robotics* course based on Ackermann steering geometry and real data captured from the e-rickshaw (GPS and steering angles)

Technologies: MATLAB

### Unmanned aerial follower

Worked on a Parrot AR.Drone, and implemented a tracker and PID controller in ROS to make the drone capable of following a red object.

Technologies: Python, ROS, openCV

### Scrabby

Created a full-fledged interface and a state-of-the-art bot to emulate the popular word game Scrabble for the course *Artificial Intelligence*.

Technologies: Python

Code: <http://github.com/gurshabad/scrabby>

### Foosball

As the course project for *Advanced Programming*, completed the implementation of a Foosball game for a human player vs. a capable bot.

Technologies: Java, Swing

Code: <http://github.com/SnipeSwipe/I-Hate-SVN>

### Text justification

As the course project for *Introduction to Programming*, implemented Donald Knuth's paper on greedy and dynamic algorithms for text justification.

Technologies: Python

Code: <http://github.com/gurshabad/textjustification>

### Chakravyuha

Singlehandedly created a secure and robust platform for conducting online treasure hunts from scratch. It also resulted in an opensource JS plugin.

Technologies: PHP, CSS, Javascript, jQuery

## Education

### Indraprastha Institute of Information Technology

**Bachelor of Technology** 2013 - 2017

Currently pursuing a degree in Computer Science and Engineering. The positions of responsibility I hold/have held are:

- Secretary of the student council
- Administrator of the software dev club
- Coordinator of the quizzing club

Some of my technical electives include *Theory of Computation, Artificial Intelligence, Robotics, Distributed Systems, Functional Programming, & Program Analysis*.

Some of my non-technical electives include *Perspectives on Knowledge, English Literature, and IT & Governance*.

### Mount St. Mary's School

**Senior Secondary** 2001 - 2013

Completed my high school education in sciences and computer science with the following achievements:

- Class valedictorian in sciences
- Recipient of CK Sharma Gentleman Award

I was the president of the computer club in my final year of school, and also received the award for best in computer science and web designing.

## Awards in Security Competitions

- Finalist, Microsoft Build The Shield 2016
- Runners Up, ISGF Hackathon 2016
- Finalist, Microsoft Build The Shield 2015
- Runners Up, Toast To Code 2015
- Winner, HackOn 2014

## Open-source contributions

I am open-source enthusiast and my contributions can be found at <http://github.com/gurshabad>.