

# Pranjal Tale

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## EDUCATION

### INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

INT. MSc IN APPLIED MATHEMATICS  
2015 - 2020 (expected)  
Roorkee, India  
Cum. GPA: 7.40

### JAWAHARLAL NEHRU SCHOOL SENIOR SECONDARY(CBSE)

Grad. May 2015  
Bhopal, India

## AREAS OF INTEREST

Software Development, Deep Learning,  
Network Security

## OPEN SOURCE

CodeWorld, Sympy, Cadasta

## LINKS

Github:// [pranjaltale16](#)  
Portfolio:// [pranjaltale16](#)  
LinkedIn:// [pranjal-tale](#)  
Codechef:// [pranjaltale16](#)

## COURSEWORK

### COMPUTER RELATED

Mathematical Imaging Techniques  
Database Management Systems  
Linear Algebra  
Design and Analysis of Algorithms  
Data Structures  
Machine Learning (Andrew NG,  
Coursera)

### MATHEMATICS RELATED

Complex and Real Analysis  
Probability and Statistics  
Number Theory  
Discrete Mathematics  
Graph Theory  
Numerical Methods

## EXPERIENCE

### CODEWORLD | SUMMER OF HASKELL 2017

May 2017 – Sep 2017 | Work from home

- Made a standalone executable Cabal package for source code compilation wrapped over GHCJS; added test suite for the same and regex parser for filtering the error messages.
- Made a custom tree parser using haskell-src-xts and syb, to recurse through AST and check for syntax errors before compilation.
- Tech-Stack: Haskell, Javascript, Shell scripting, SNAP-framework, git

## TECHNICAL PROJECTS

### SMP PORTAL | INFORMATION MANAGEMENT GROUP, IIT ROORKEE

- Developed an application enabling information exchange, event announcement, documents sharing between mentors, mentees and team with push notifications, aimed at fostering healthy interaction.
- Tech-Stack: Django, mysql, semantic-UI, jQuery, django-auth, Apache2.

### NOBEL | INFORMATION MANAGEMENT GROUP, IIT ROORKEE

- Nobel is an internal Chat Room for the members of IMG, Built on NodeJs using socket.io and Semantic-UI. It helps us to check for the presence of members in the lab and communicate with them.
- Tech-Stack: Node-js, Express, Semantic-UI, pm2, vanilla js, Socket.io.

### IMG WEBSITE | INFORMATION MANAGEMENT GROUP, IIT ROORKEE

- Worked on IMG(Information Management Group) website as a full stack developer. It consists of features like dashboard for user, admin panel, blogs etc, also, the same tries to connect alumni with team.
- Tech-Stack: Django, mysql, materializecss, jQuery, Apache2.

## ACADEMIC PROJECTS

### A 3D ANALYSIS OF OXYGEN TRANSFER FOR ANIMAL CELL SUSPENSION CULTURE

- Mentored by Dr. Ameya K. Nayak. A 3D model was developed in MATLAB, to study the flow field and oxygen transport in a micro bioreactor with rotating magnetic field at the bottom.

### MATHEMATICAL ANALYSIS REPORT SUBMISSIONS

- Made Several detailed report Submissions on mathematical topics like Operation Research, Fractals Hilbert Space, ring theory, Cryptography, Roots of polynomial, Asymptote Curve Tracing, Abstract algebra, Functional Analysis, partitions. Under Prof. Dr. R.C. Mittal.

### LAB EXPERIENCES

- Implemented Several Algorithms in Data Structures, also incorporated advanced topics such as Segment Tree, AVL Tree, Dynamic Tree etc.
- Conducted various experiments on electromagnetism, diffraction like frank hertz experiment, single slit diffraction, Helmholtz experiment etc. Along with this conducted experiments of Fluid Mechanics in Hydro Engineering Laboratory.

## SKILLS

### PROGRAMMING

#### Proficient:

Haskell, Python, C++

#### Experienced:

LaTeX PHP, CSS, Javascript

### WEB

Django, Express, SNAP-framework

### UTILITIES

Linux, GitLab, Sentry, Piwik, MySQL,

Apache2, Redis, RabbitMQ

## LANGUAGES KNOWN

English - RSW

Hindi - RSW

## EXTRACURRICULAR

### ACTIVITY

Cook.

Music Enthusiast.

Play Guitar and Ukulele.

Cube Solver.

Photographer.

Astrophile.

## REFERENCES

### DR. A. K. NAYAK

Assistant Professor, Dept. of

Mathematics

Indian Institute of Technology

Roorkee

nayakfma@iitr.ac.in

## ACHIEVEMENTS

- 2017 Recipient of Summer Undergraduate Research Award (SURA) by IIT Roorkee
- 2017 Participated in HackDTU and successfully completed the app in 24 hours
- 2016 Recipient of INSPIRE-SHE scholarship, by Government of India
- 2016 Successfully completed an app overnight as a part of Code.Fun.Do 2017, 2016
- 2016 Qualified of Elimination round of Codechef SnackDown-2016
- 2014 Awarded a Gold Medal in the Inter-school Basketball Open
- 2013 One of the 3 members who got selected to visit HEGRO Observatory situated in Pa

## POSITION OF RESPONSIBILITY

### PROJECT LEADER | INFORMATION MANAGEMENT GROUP

Jan 2016 – Present

- IMG, (Information Management Group) is a student's group in IIT Roorkee responsible for development and maintenance of internet and intranet applications in the institute, including the website of IIT Roorkee.

### JOINT SECRETARY | PROGRAM MANAGEMENT SECTION

Aug 2016 – Present

- Program management section is a cultural club under Cultural Council IITR, and is responsible for the conduction and management of all the events of Cultural Council smoothly.

### SENATE MEMBER | STUDENT AFFAIRS COUNCIL

July 2015 – April 2016

- I have been the part of Alumni Relations Team of SAC (Students Affair Council) IIT Roorkee for the academic Year 2015-2016, also helped in planning and execution of Global Entrepreneur's Conclave for the First time in IIT Roorkee.

### BRANCH REPRESENTATIVE | COGNIZANCE IIT ROORKEE

July 2015 – April 2016

- Cognizance IIT Roorkee is the Asia's second largest technical Festival Held in March every year I have been selected as a branch representative by Cognizance IIT Roorkee for the year 2015.