

# ROHIT ASHIWAL

System Software hobbyist with interests in the field Quantum Computing

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## EDUCATION

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Computer Science and Engineering (CSE)

Indian Institute of Technology (IIT), Roorkee

Cumulative GPA: 7.000/10

July 2017 – Present

## RESEARCH EXPERIENCE

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CoDA Lab, IIT Roorkee

May 2018 – Jul 2018

Didactic project under Prof. Sudip Roy, Dept. of CSE, IIT Roorkee.

- Discussed various security issues, encryption and prevention schemes in different microfluidic biochip design, viz, DMF, CMF, PMD, and MEDA
- Implemented a simple routing scheme for mixing of biomaterial on chip

## WORK EXPERIENCE

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Student Software Developer

Google Summer of Code 2019 | Git

May 2019 – Aug 2019

Git is a distributed version control system with focus on speed, data integrity, and support for distributed, non-linear workflows.

- Worked with Git to improve consistency of sequencer commands
- Introduced requested features to git-for-windows

## PROJECTS

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**Ray Tracer:** A highly parallel ray tracing implementation using CUDA C++. Currently, it only implements simple spherical shapes with basic textures (lambertian, metal and glass).

**LBakeDB:** A fully functional Relational DB written in C that follows SQLite like commands.

A course project under Database Management systems

**Linux Scheduler:** A background scheduler policy written in C for the Linux kernel 4.20.5 (current stable at the time of development).

A course project under Operating Systems

**Assembler:** SIC/XE assembler written in C supporting extended instruction set.

A course project under Systems Software

**Appi:** A campus app written in Django that helps in reducing food wastage.

## TECHNICAL SKILLS

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**Programming:** Java, Python, Kotlin, JavaScript

**System Programming:** CUDA C/C++, Go, Rust

**Utilities:** Git, BigQuery, GDB, make, Doxygen

**Others:** Shell Scripting, Django, Qiskit, Jupyter, L<sup>A</sup>T<sub>E</sub>X

## EXTRACURRICULAR ACTIVITIES

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Mentor, SMP IIT Roorkee

July 2019 – Present

Mentoring freshmen for smooth transition to campus life, motivating their academic & other endeavors.

Developer at Mobile Development Group

Jan 2018 – Jul 2019

MDG is a small group of students that foster android development in the campus premises.

Developer at Cognizance

Jan 2018 – Mar 2018

Cognizance is the official technical festival of IIT Roorkee. Developed database schemas & RESTful APIs.

Hacker at InfoSec

Aug 2017 – Jan 2018

InfoSec is a group of students that spread awareness about information and cyber security.

## ACCOMPLISHMENTS

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- XCTF, 2018** - Ranked 105 among 5000 teams from all over the world
- ACM ICPC, 2017** - Honorable Mention in ACM ICPC Asia Region Amritapuri Online Contest
- JEE Advanced, 2017** - Top 3% among a pool of 220,000
- JEE Mains, 2017** - Top 0.8% in JEE Mains 2017 among a pool of 1.5 million

## CERTIFICATES

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- Specialization: From Data to Insights with GCP**  
Coursera  
Issued on Dec 2019 see credential

- Google Cloud Platform: Core Infrastructure**  
Coursera  
Issued on Dec 2019 see credential

- Introduction to Quantum Computing**  
Saint Petersburg State University  
Issued on Dec 2019 see credential