



Rishi Chordia

UG (IV Year II Semester)
B.Tech. (Computer Science and Engineering)
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Indian Institute of
Technology
Roorkee



Area of Interest

Data Structure and Algorithms, Operating Systems, Cloud Computing

Education

Year	Degree/Examination	Institution/Board	CGPA/ Percentage
2022	B.Tech. 4th Year	Indian Institute of Technology, Roorkee	9.230
2018	Matriculate (Class X)	Nehru Smaraka Vidyalaya Jaynagar Bangalore(CBSE)	97.60 %
2016	Matriculate (Class X)	Carmel High School Basaveshwaranagar Bangalore(ICSE)	97.50 %

Internships

Summer Internship | Microsoft India (R&D) Pvt. Ltd

June 2021 - July 2021

- Worked at Azure-Stack Edge team with C aimed at improving the current infrastructure used for inter-role communication
- Implemented and compared the difference between technologies like gRPC and REST to establish a secure inter-role communication between entities.
- Improved the performance by reducing the time taken into half. Also analyzed the development hurdles and long term benefits.

Projects

Distributed Database | BTech Project

July 2021 - December 2021

- Built a No-SQL-based key-value distributed database from scratch in Go language that is highly replicated, available and consistent.
- Implemented RAFT consensus algorithm to achieve distributed consensus.
- Tested the database on various failure scenarios and benchmarked the database on 1000 writes/second

Analysis and Reverse-engineering of Selected Hardware components in Modern Systems and their Security

Implications | IIT Roorkee

February 2021 - April 2021

- Demonstrated reverse engg. of CPU cache size and associativity to understand the micro-architectural effects which can cause security vulnerabilities.
- Demonstrated covert channel attack using LLC cache and flush-restore model
- Demonstrated the spectre attack using a cache side channel and speculative execution. [Link to project](#)

KSOS | ACM IIT ROORKEE

June 2020 - September 2020

- An os kernel built from scratch in C and assembly.
- Works on an x86 Assembly structure using a FAT12 file system driver and standard intel interrupts design protocols.
- Implemented a kernel shell, keyboard handler for keyboard interrupts. Also implemented a file system driver and various small drivers.

Automated Stack Overflow Post Rater | IIT Roorkee

March 2021 - May 2021

- Created an automated agent to identify good answers on Stack Overflow using supervised learning algorithms.
- A dataset was obtained by processing the raw data extracted by querying the Stack Overflow database.
- Techniques such as Logistic Regression and Simple Neural Networks were used for training and testing the model.

POS Tagger | CSN-371

August 2020 - November 2020

- Created a Part-of-Speech tag predictor for english language using the concept of Hidden Markov Model.
- Implemented the viterbi algorithm on a bigram model to find the most probable sequence of hidden tags.
- Additionally implemented a trigram model that looks at 2 previous words to determine the most probable sequence.

Community Financing -Blockchain | ACM IIT ROORKEE

August 2020 - September 2020

- A decentralized app for financing a community or a social cause using blockchain without any third party.
- Provides a secure peer to peer network for both donation and collection of funds.
- The application uses concepts of Ethereum blockchain using solidity contracts and simple front-end.

Awards / Scholarships / Academic Achievements

- AIR-1763 JEE Mains 2018
- AIR-638 KYPY Fellowship Award 2017 (Stream -SX)

Skills

Computer languages	C/C++, Python, C#, HTML/CSS
Software Packages	Git, Visual Studio, Vim
Additional Courses	English(Advanced), Economics
Languages Known	Hindi(SRW), English(SRW) Kannada(SRW)

Positions of Responsibility & Extra Curriculars

Core Member | ACM IIT Roorkee

January 2020 - April 2022

- Moderated and organised the discussions on Operating Systems & Networks.
- Conducted open projects and workshops to spread knowledge and spark interest in the general community in campus

Volunteer - National Service Scheme | IIT Roorkee

August 2018 - April 2019

- Volunteer at National Service Scheme at IIT Roorkee which aims at working towards betterment of society through engaging in social services in and around IIT Roorkee.

References

Dr. Sugata Gangopadhyay

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Dr. R. Balasubramanian

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