Rishi Chordia

Curriculum Vitae

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"Currently working as a Software Engineer at Microsoft. B.Tech in Computer Science & Engineering from IIT Roorkee."

Education

2018 – 2022 **Bachelor of Technology in Computer Science & Engineering**,
Indian Institute of Technology (IIT) Roorkee, Roorkee.
CGPA - 9.243/10

2016 – 2018 **Central Board of Secondary Education Class XII**,
Nehru Smaraka Vidyalaya, Jayanagar, Bangalore.
Percentage – 97.6%
Specialized in Computer Applications

Work Experience

Aug 2022–Present **Software Development Engineer**, MICROSOFT, Bangalore.

- March 2023 - Present :- Microsoft Graph Data Connect.
  Currently working on MGDC where tenants(enterprises) can withdraw their *M365/AAD/On-Prem* data of entire orgs/some users using several datasets provided in ADF pipeline.
  - On-boarded several different types of complex datasets as per customer requirements and met tight deadlines for data deliverance.
  - Optimized the core extraction platform, using multi-threading concepts in C#, to reduce the time of data extraction for huge tenants,from several days to just a few minutes.
  - Worked on automation tools for dataset on-boarding using LLM's to generate the necessary files. Created chat-bots to help ease the process of onboarding api's as a support assistant.
  - Responsible for handling the MGDC public documentation.

- Aug 2022 - March 2023 :- WorkPlace Analytics
  - Worked in the WPA-SI Data Engineering team as a big data platform engineer building platforms to efficiently cater to the data scientists.
  - Worked on projects like optimization of latency of data flow; creation, management and deprecation of the data flow pipelines using Azure Data Factory ; privacy scrubbing and data management of huge amounts of enterprise data using Apache Spark and Hadoop clusters.

Jun 2022–Aug 2022 **Software Engineering Intern**, REPHRASE.AI, Bangalore.

- Worked on project "optimization of big file streaming to reduce the latency of downloads" in Python-Django and GraphQL , HTTP Rest streaming api's.
- Profiled the latency gaps and demonstrated the bottlenecks of the existing frameworks which were caused due to graphQL.
- Optimized the file streaming and download speed by a factor of 100x from a few seconds to a couple of milliseconds.

Jun 2021–July 2021 **Software Engineering Intern**, *Azure Cloud*, Microsoft India, Bangalore.

- Worked at Azure-Stack Edge team in C# to optimize the current systems inter-services communication.
- Implemented and compared the difference between technologies like gRPC and REST to establish a secure inter-role communication between several micro-services.
- Optimized the efficiency by 10X reducing the latency of communications between the several different micro-services.

Teaching Experience

Summer 2023 **Learning Seminars**, *SIDE*, Microsoft IDC, Bangalore.

Orchestrated the learning seminars in E+D org of Microsoft on topics related to Distributed Computing like Distributed Consensus Protocols(RAFT & Paxos), for the knowledge and growth of colleagues.

Aug 2020–May 2021 **OS & Computer Architecture**, ACM STUDENT CHAPTER, IIT Roorkee, Roorkee.

Under the guidance of Professor P. Sateesh Kumar,

- Regularly organised biweekly lectures on concepts of operating systems and architecture in a fun and engaging manner for students of all branches.
- Drove several workshops of open projects across the college. These workshops taught students to build small and easy programs like a custom Linux-shell(using multiprocessing), multi-threaded client-server chat applications etc, to spark interest of students in core computer science.

Technical Projects

Fall 2021–Spring 2022 **No-SQL based Distributed Database System**,
BTECH PROJECT, IIT Roorkee, Roorkee.

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

Spring 2021 **Analysis and Reverse-engineering of Selected Hardware components in Modern Systems and their Security Implications**,
CSN300 – Lab Based Project, IIT Roorkee, Roorkee.

- 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*

Fall 2020 **KSOS**,
ACM Student Chapter, IIT Roorkee, Roorkee.
- Built an linux kernel from scratch for x86 assembly architecture.
- Built a custom boot-loader that boots into the 16-bit real mode and then switches into the 32-bit protected mode. Implemented a FAT12 file system to store and load the kernel.
- Built interrupt handlers and virtual memory management systems in the kernel and wrote a simple shell program. *Link To Project*

Spring 2022 **In-Memory Cache**,
ACM Student Chapter, IIT Roorkee, Roorkee.
- Developed a thread-safe in-memory caching library in C++ ,using template programming , that is easy to use in any program.
- Implemented several different eviction policies (like LRU,FIFO,LIFO,etc) that can be easily and added functionality to add new eviction policies very easily. *Link To Project*

Fall 2020 **POS Tagger**,
CSN-371 Artificial Intelligence, IIT Roorkee, Roorkee.
- 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. *Link To Project*

Spring 2020 **Community Financing DApp - Blockchain**,
ACM Student Chapter, IIT Roorkee, Roorkee.
- A decentralized web application for financing a community or a social cause by group of people using Blockchain and Ethereum technology involving no third parties.
- The application uses concepts of Ethereum blockchain using solidity contracts and simple front-end.
- Anyone can raise funds as well as donate to a particular Fund through a secure peer to peer network. *Link To Project*

Technical skills

Languages C# , C/C++, Python, Apache Spark, Bash, SQL, Latex, HTML/CSS

Software Vim, Docker, Git, GNU/Linux, CMake

Services Microsoft Azure

Courses Undertaken

Computer Science Information and Network Security, Advanced Algorithms, Cloud Computing, Machine Learning, Compiler Design, Principles of Programming Languages, Theory of Computation, Computer Networks, Database Management Systems, Operating Systems, System Software, Computer Architecture, Data Structures

Mathematics Discrete Structures, Optimization Techniques, Linear Algebra

Others Modern Physics, Quantum and statistical Mechanics, Economics, Engineering Thermodynamics

Language Proficiency

English **Fluent R/W/S** *Part of school curriculum*

Hindi	**Fluent R/W/S**	*Part of school curriculum*
Marwari	**Native**	
Kannada	**Fluent R/W/S**	*Part of school curriculum*

Positions Of Responsibility

Feb 2020–May 2022 **Core Member**, ACM Student Chapter, IIT Roorkee, Roorkee.
ACM Student Chapter IIT Roorkee is a technical group of computer science enthusiasts that come together to discuss new ideas and work on several new projects. Served as a core member planning and orchestration the lectures,workshops,meetups and discussions of the group.

Extracurricular

Spring 2019 As a member of National Service Scheme(NSS) Swachha Bharat Abhiyan group,spread awareness related to waste management in rural areas, organised blood donation camps.

Spring 2022 Volleyball - Part of the inter-bhawan volleyball team.

2017 All India Rank-683 in KVPY SX Fellowship 2017

2016 Represented Carmel High School in "BournVita Inter-Bangalore ICSE School Quiz" and State Level Spelling Bee Competition