

ASHISH KUMAR

EDUCATION

Degree	Institution	CGPA	Year				
B-Tech	Computer Science and Engineering - IIT (BHU), Varanasi	9.88	2022				
Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII
9.94	9.76	9.81	9.78	10.00	10.00	10.00	9.72
CBSE (XII)	Subhash Public School, Giridih, Jharkhand	92.00 %	2018				
ICSE (X)	Carmel School, Giridih, Jharkhand	96.40 %	2016				

SKILLS

- **Languages:** C, C++, Python, SQL, PL/pgSQL, Bash, Java, Javascript.
- **Tools & Technologies:** Django, Django REST Framework, Spring Boot, eBPF, XDP, Git, Firebase.
- **Courses:** Data Structures, Algorithms, Operating System, Database Management System, Distributed Computing, Computer Architecture, Artificial Intelligence, Probability & Statistics, Discrete Math.

EXPERIENCE

Intern, Member of Technical Staff, Nutanix June - July, 2021

- Designed a complete workflow to reduce regression testing time of small patches by more than 75%.
- Unified build diff & coverage to identify tests. Reduced coverage generation time by ~5 min/testcase.
- Rearchitected IP address discovery mechanism on the Nutanix Hypervisor AHV using eBPF and XDP.
- **Exposure:** Coverage.py, Flask, scripting (regex), Networking, eBPF, XDP.

Google Summer of Code 2020 & 2021 with OSGeo June - Aug, 2020 & 21

- Ported graph routing and VRRP algorithms to PostgreSQL plugin in pgRouting, with 50+ unit tests.
- Inspected PostgreSQL C-Language functions and PostgreSQL SPI to connect C/C++ code to PostgreSQL.
- Automated release and documentation build workflow, implemented combinations SQL signatures.
- **Exposure:** C, C++, CMake, SQL, pgTAP, PL/pgSQL, Algorithms, GitHub Actions.

PROJECTS

Coaching Institute DBMS 🔄 Sep - Nov, 2020

- Launched a web app for coaching institute with 10+ portals. Utilized Payment API for online payments.
- Reduced database redundancy using BCNF normalization. Added proper authorization for all roles.
- **Exposure:** Java, Spring Boot, MySQL, JDBC, Maven.

IIT (BHU) Workshops App API 🔄 Jan - April, 2020

- Developed a RESTful API for complete management of workshops, used by over thousands of students.
- Optimized Django DB queries using SQL Joins for 5-10x performance, added Indexing for faster result.
- **Exposure:** Python, Django, Django REST Framework, Firebase Auth

SwiftRail, Railway Management System 🔄 Aug - Nov, 2019

- Built a portal, combining IRCTC and NTES for Railway Ticket Booking and Railway Enquiry.
- Implemented the payment gateway and live train status feature using third-party APIs.
- **Exposure:** Python, Django, MySQL, Social Auth, API, HTML, CSS.

POSITION OF RESPONSIBILITY

- **Tech Executive & (later) Tech Head:** Led a team to revamp the website of 3 college fests.
- **Co-Coordinator, Club of Programmers:** Dev Mentor and problem setter for various coding events

HONOURS AND ACHIEVEMENTS

Programming:

- **ICPC Regionals, 2019:** Qualified for ICPC onsite regionals, Amritapuri out of 4,400+ teams.
- **305th and 370th Global Rank** out of 11,500+ participants, Google Kickstart Round D and E, 2020.
- **Peak Rating 1929 (Candidate Master)** on [Codeforces](#), and **2063 (5 Star)** on [Codechef](#).
- **11th, 15th, and 17th Position** in India in Codeforces Round #635, #497, #527, respectively.
- **109th and 187th Global Rank**, Codechef June'20 & Dec'19 Challenge among Division 1 participants.

Development:

- **3rd Rank**, Nutanix CTF, 2022 among the participants from the Engineering teams at Nutanix globally.
- **Winner of U-Hack**, Nutanix Virtual Hackathon, 2021 out of 55+ Interns.
- **Google Summer of Code:** Selected twice for GSoC program 2020 & 2021, out of 6,600+ applicants.
- **1st Rank** in 1st/2nd year (IIT BHU) in Codefest CTF contest, **3rd Rank** in onsite Hackathon by Headout.

Academics:

- **Institute Gold Medalist:** First in B.Tech. CSE, with A* in 9 courses - awarded 3 Gold Medals/Prizes.
- **Institute Honor:** Institute Rank 1 out of 1100+ students in 1st Semester with an SPI of 9.94/10.
- **1295th Rank** out of more than 1 million candidates, JEE Main 2018.

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