

Rajat Singh

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EDUCATION

- Indian Institute of Information Technology** Gwalior, India
Integrated Post Graduate (B.tech + M.tech); GPA: 8.00 *August, 2019 - May, 2024*
Courses: Operating Systems, Data Structures, Database and Management System, Computer Networks, Object Oriented Programming with C++

EXPERIENCE

- Zscaler, Inc** Pune, India (Hybrid)
Software Development Intern- C++, Python, Computer Networks *April-2024 - Present*
 - Zscaler Client Connector:** Worked on development of latency-based server swapping for Zscaler Client Connector, an application used by over 40 million users, with a primary focus on Tunnel 2.0 to enhance internet security.
 - RDP Support:** Implemented Remote Desktop Protocol (RDP) Support via Zscaler Private Access for Tunnel 2.0, impacting 5M+ internet transactions daily.
 - Infrastructure Cost:** Reduced dependency on external virtual machines (30+ VMs) for test setup by creating a local environment using VirtualBox, resulting in lower infrastructure cost.
- Wingify, India** Delhi, India (Remote)
Software Engineering Intern- Lua, nginx, Redis *December 2023 - March 2024*
 - CDN:** Worked on an in-house Content Delivery Network (CDN) serving 10k+ requests per second per node. Optimized their legacy code-base by 20% by implementing best practices.
 - Data Residency:** Implemented data residency using Bloom filters, impacting 8k+ B2B customers, significantly improving the speed of membership tests for multiple attributes.
- Travel Creators** London, UK (Remote)
Software Engineering Intern *January 2023 - April 2023*
 - Third Party Payouts:** Integrated third-party payouts via Stripe Connect and Stripe webhooks, automating payment transfers for creators through cron jobs. Developed and maintained over 15 APIs for payment processing.
 - Trips and Creator:** Built the entire backend for Trips and Creator sections from scratch, impacting a user base of 10,000 active users. Implemented authentication, created models, controllers, routers, and stored real-time data in MongoDB.
- Synergy Classes** Greater Noida, India (Remote)
C++ Instructor *February 2021 - September 2021*
 - Intro to C++:** Taught multiple batches of 100+ students over 8 months (1200+ students) a basic course on Introduction to Computer Programming using C++.
 - Data Structures and Algorithms:** Taught a course on Data Structures and Algorithms, impacting over 1000+ students. Mentored students in navigating through over 300+ DSA problems, cultivating a profound understanding and fostering robust problem-solving intuition.

PROJECTS

- Dukaan: A full fledged ecommerce store:** 
 - Developed a full-stack web app using React.js, Node.js, Express.js, and MongoDB with 20+ API endpoints. Implemented 10+ user features like order placement, product reviews, user onboarding, JWT authentication, Stripe payments. Ensured full responsiveness and integrated an Admin Dashboard for delivery tracking and product management.
- Enhancing Decision Making Policies using Reinforcement Learning for Cognitive Radio Applications:** 
 - Implemented Multiplayer Multi-armed Bandit Algorithm for logarithmic regret in a 5-player, 20-arms setup; and applied Nash Equilibrium in synchronized communication to enhance robustness against selfish nodes in decentralized cognitive radio systems.
 - Published and presented the research work at 2024 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI) with an acceptance rate of less than 1%.

TECHNICAL SKILLS

- Languages:** C++, python, JavaScript, Typescript, C, HTML, CSS, SQL, GraphQL
- Frameworks and Libraries:** React.js, Node.js, Express.js, pytest, Redux, Bootstrap **Database:** MongoDB, MySQL
- Developer Tools:** Git, AWS-ec2, Github, RestAPI, VS Code, GCS, Stripe, Stitch.money Payment Gateway, Google colab, Kaggle

POSITION OF RESPONSIBILITY AND ACHIEVEMENTS

- Qualified GATE'23 with AIR 5k in 76k Candidates
- Specialist - Codeforces, Codechef - 4 star
- 566 worldwide rank in Codechef's Div-2 Rated April Coding challenge (Total 6500+ participants)
- Solved 700+ Data Structure and Algorithm problems across various coding platforms.