

Rajat Kumar R

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WORK EXPERIENCE

Voltvave Innovations Private Limited

Freelance - Software Architect & Developer

Bangalore, India

November 2025 - Present

- Architected and developed "[Tredye](#)," a high-performance trading platform showcasing live, multi-timeframe RSI data for 214 FNO-listed stocks on the NSE. With the advancement in AI, this platform, solution, and architecture were developed using AI models such as Gemini 3 pro and Claude code.
- Implemented a robust microservices architecture, containerized with Docker, ensuring scalability and independent deployment of components.
- Designed the data pipeline and real-time frontend using Next.js 16, integrating with Redis for caching and Kafka for efficient, high-throughput message queuing.
- Managed persistent data storage with PostgreSQL and utilized an Nginx reverse proxy for load balancing and secure traffic routing.
- Leveraged Oracle Cloud Infrastructure (OCI) for cost-effective, free-tier hosting, optimizing resource utilization for 24/7 operation.

Red Education

Team Lead - Senior Python Support Engineer

Bangalore, India

February 2024 - August 2025

- Diagnosed a monolithic 50,000-line lab script as a bottleneck through code analysis, proposing a modular, object-oriented re-architecture.
- Engineered Labbuild 2.0 from the ground up with Python and pyVmomi, slashing lab creation time by 90% through optimized API calls.
- Architected and delivered the Labbuild Dashboard using Flask, MongoDB, and Bootstrap, translating a conceptual vision into an intuitive GUI that boosted operational efficiency.
- Spearheaded the "Operation Schedules" project, defining requirements and outlining a full-stack solution to automate the team's manual workflow.
- Crafted a full-stack web tool using Flask and PostgreSQL, implementing high-performance REST APIs with FastAPI and automating schedule generation with Flask-APScheduler.
- Utilized generative AI tools, including ChatGPT and Gemini, to accelerate development by aiding in architecture design, rapid prototyping, and code generation.
- Orchestrated a new DevOps strategy leveraging the vSphere API and Git for version control to streamline and automate lab deployments.
- Helmed the technical interview process, assessing candidates' Python, database, and system design skills to expand the engineering team.

FreeLancer

Technical Consultant

Bangalore, India

November 2023 - January 2024

- Designed and implemented a dynamic dashboard for Pro Fit Club, a local gym, utilizing Django and PostgreSQL for backend development and Svelte for the frontend, enhancing user interaction and data management.
- Conducted in-depth research on various emerging open-source AI tools, assessing their potential to optimize current business solutions at Tandemloop Technologies Pvt. Ltd., aiming to leverage upcoming technologies for enhanced operational efficiency.
- Executed comprehensive tests to explore viable applications for Autogen with MemGPT and LM Studio, evaluating the capabilities of open-source GPT models and Autogen agents, aiming to identify effective use-cases and potential enhancements.

Offpriced Canada Inc.
Senior Developer

Remote - Bangalore, India
July 2022 - October 2023

- Led a team of six in establishing an e-commerce platform and its fulfillment process, leveraging Notion for effective progress tracking and stakeholder collaboration, ensuring seamless project execution and team coordination.
- Pioneered the creation of scalable web applications and services using Python, ensuring high performance and maintainability.
- Employed Git for meticulous version control, ensuring precise tracking of changes and feature enhancements.
- Innovated a Python and Selenium-based email validation tool for the marketing team, boosting outreach effectiveness and accuracy.
- Administered user accounts, robustly enforcing security and privacy protocols through strategic use of Microsoft Admin, ensuring a secure and compliant digital environment.
- Initiated the use of a Kanban board to streamline team task tracking, aligning closely with project objectives and timelines.
- Conducted daily stand-up calls to actively monitor task progression and foster team collaboration and communication.
- Conceptualized initial content using ChatGPT and StabilityAi, which was subsequently refined by the Marketing team to solidify brand presence.

HCL Technologies
Lead Engineer - SQA

Bangalore, India
October 2021 - June 2022

- Led a team of six engineers in the SQA team, serving Palo Alto Networks, focusing on developing test cases and automating testing processes for cloud solutions.
- Developed and automated test cases for cloud solutions using the Pytest Framework and Python, enhancing product reliability and release efficiency.
- Innovated in test automation by orchestrating the execution of test cases through Jenkins, significantly boosting efficiency and minimizing manual testing.
- Engineered complex test beds across platforms like ESXi, AWS, GCP, and Azure, facilitating thorough Regression, Smoke, and Acceptance Testing.
- Crafted core APIs for a novel containerized firewall application within a Kubernetes cluster, enhancing testing capabilities for QA and Development teams.
- Established intricate Kubernetes clusters specifically designed to test a range of scenarios for the new container firewall application.
- Expertly reported and tracked bugs using Jira, streamlining the bug resolution process for increased efficiency.
- Authored detailed documentation on testbed setup and test case results, both individually and for overall release, on Confluence, ensuring clarity and transparency.
- Spearheaded the hiring process for new project candidates, ensuring the selection of skilled and suitable team members.

Supercomputer Education And Research Centre (SERC), Indian Institute of Science
System Engineer - Project Associate II

Bangalore, India
July 2019 - September 2021

- Managed and maintained "SahasraT," one of India's fastest supercomputers Cray XC40, with over 33,000 cores, serving as the Single Point of Contact (SPOC) throughout my tenure.
- Enhanced productivity and optimized resource utilization on clusters by adeptly utilizing Workload Managers such as PBS Pro with ALPS launcher, Torque, and Maui.
- Developed several PBS Python Hooks to implement organizational policies, optimizing job wait-time and enforcing core-hours restrictions on user jobs.
- Deployed Proxmox Virtual Environment, an open-source server virtualization platform, as a testbed for various policy change implementations within the organization.

- Played a key role in developing a dashboard for monitoring critical systems, integrating Twilio, Django, PostgreSQL, Pandas, and Plotly technologies.
- Developed numerous Python automation scripts to compile and format critical systems data for effective visualization on a dashboard.
- Installed and optimized various applications in the Cray Linux Environment (CLE), ensuring optimal usage and performance.
- Conducted educational seminars covering diverse topics related to the Linux Operating System, High-Performance Computing (HPC), and Supercomputers.

TEKsystems (Client: Hewlett Packard Enterprise)

Bangalore, India

Network Support Engineer

June 2017 - June 2019

- Provided L1 support for AT&T and their clients, specializing in network monitoring and remote issue resolution to maintain optimal network performance.
- Gained proficiency in working with Aruba networking peripherals, contributing to enhanced network management and troubleshooting.
- Coordinated effectively with the L2 team to address and resolve critical issues reported by clients, ensuring high-quality service delivery.
- Collaborated with team leads to refine Standard Operating Procedures (SOPs), playing a pivotal role in optimizing work efficiency and process improvement.
- Earned the "Best Performer" accolade for exceptional performance during a fiscal quarter and consistently ranked as a top performer in the team, demonstrating outstanding skill and dedication.

SKILLS & INTERESTS

Skills: Python | Django | PostgreSQL | Flask | Selenium | Git | Jira | Confluence | REST API Development | ReactJS | HTML | CSS | jQuery | Node.js | Web Application Development | Performance Optimization | Pytest | Automated Testing | Kubernetes | AWS | Serverless | Lambda | Microservices | Project Leadership | Team Collaboration | Client Onboarding | Problem Solving | Communication

Interests: Photography & Videography, Music Production, Video Editing, FPS Gaming, Culinary arts.

EDUCATION

ACS College of Engineering

Bangalore

Computer Science and Engineering/Bachelor of Engineering

June 2016