

# Ritwik Puri

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## EXPERIENCE

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### CitiXsys

Feb. 2024 – Present

*Software Engineer*

*Noida, India*

- Part of the iVendNext team, leading cloud initiatives, helping build and manage iVendNext Cloud.
- Built DevContainers for Cloud for enabling development from the browser.
- Implemented a service for autostopping/starting containers for non-critical workloads based on requests, optimizing server resources and cost.
- Introduced Point Of Sale (POS) Authentication Mechanisms using QR, MSR and Biometric devices.
- Implemented POS Customer Display streaming using websockets (Socket.IO).
- Facilitated UAT environment creation from live/production site for allowing partners/customers to test new updates, additional apps, etc safely.
- Built an AI Bot Framework using OpenAI's APIs for building bots & functions, making it easy for users to interact with the system. Built a Custom Chatbot Interface for the same.
- Contributed to the development of a RAG-based chatbot service designed to handle specific queries, translating natural language into SQL, and providing product how-to guidance by referencing product documentation.
- Implemented a Licensing Engine (on cloud) to manage customer site quotas, with auditing mechanisms.
- Designed Offline POS setup utility for deploying standalone iVendNext instance(s) in retail store(s).
- Implemented CI/CD pipeline(s) using GitHub Actions to automate application release cycles, enhancing deployment efficiency and reliability.

### Frappe

Sept. 2021 – Jul. 2023

*Software Engineer*

*Remote*

- Core (Backend) Maintainer/Developer of the Frappe Framework, owned and scaled Database & Email modules.
- Introduced integer primary keys using sequences for increasing write speed along with decreasing index sizes in the database.
- Introduced OAuth based authentication for email (IMAP, POP & SMTP) client in the framework.
- Proposed architectural changes like removing additional Redis instance(s), which helped in simplifying deployments.
- Enhanced efficiency and throughput of background processes through multi-queue consumption. Reduced (base) memory consumption of background workers by 25% by optimizing import paths.
- Led the development of Submission Queue, for queuing heavy workloads/actions in the background.
- Made framework more maintainable by refactoring integrations and moving out independent modules into separate apps thus dropping unnecessary dependencies and reducing setup time.
- Acted as trainer for the Frappe Developer Certification, twice, training 50+ people whilst having a direct revenue impact (upwards of \$25k).
- Reviewed more than 300 PRs, helping increase the test coverage of the framework from 50% to 68%.
- Worked with customer support team(s) to resolve bugs, handle feature requests and provide production support.

## PROJECTS

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### Key-Value Store with Raft consensus (*Java*)

- Implemented an at-most-once Key Value store based on the Raft consensus algorithm.
- Implemented Leader Election, Log Replication and Log Compaction.

## TECHNICAL SKILLS

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**Languages:** Python, Golang(Go), SQL

**Frameworks:** Flask, Frappe

**Tools:** Git, Docker, MySQL/MariaDB, Redis, Shell Scripting, Github Actions

## EDUCATION

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### Georgia Institute of Technology

Jan. 2024 – Present

*Master of Science (MS), Computer Science*

*Remote*

### Bennett University

Jul. 2017 – Jun. 2021

*Bachelor of Technology, Computer Science and Engineering*

*Noida, India*