Rajat Patwari

✉ rajatpatwari@gmail.com   🔗 rajatpatwari.com   ⭘ patwarir   📞 (647) 563-4925

EDUCATION

University of Waterloo   Sep 2020 – Apr 2025
Candidate for Bachelor of Software Engineering, Honours

SKILLS

Languages: TypeScript / JavaScript, Python, C#, Kotlin, Rust, Java, C / C++, Go

Tools: Docker, React.js, AWS, Kubernetes, Django, ASP.NET Core, Nest.js / Express.js, Terraform

EXPERIENCE

Full Stack / Infrastructure Developer Intern   May 2023 – Aug 2023
ResQ Ltd. | Toronto, ON

- Developed a fully-fledged demo environment in **Python** with ordered randomized data for the sales team, improving their **operational efficiency by 30%** during setup for product pitches and advertisements.
- Reduced image **retrieval latency by 5% on average** by leveraging **Terraform** to provide version management and updates for **AWS S3** buckets used for content distribution.
- Released a customer-facing analytics feature for tracking B2B spending using **Django**, **React.js** and **React Native** allowing **5,000+ customers** to reduce capital and operational expenses.

Full Stack Developer Intern   Sep 2022 – Dec 2022
Borrowell Inc. | Toronto, ON

- Implemented a new customer payment plan feature in **Angular** + **ASP.NET Core** which resulted in an approximate **10% revenue increase** for the product.
- Streamlined customer experience by automating pre-authorized debit transactions, resulting in time savings for the customer service team and reducing processing times for customers by **24 hours on average**.
- Composed **Azure Function** triggers for notifications to achieve a monthly inactive **user revival count of 1,250+**.

Backend Developer Intern   Jan 2022 – Apr 2022
Crescendo Technology Ltd. | Remote – Toronto, ON

- Designed and implemented an automated pipeline service in **.NET Core** that archives up to **15,000 user records per second** for long-term storage based on configurable parameters.
- Utilized **gRPC Protocol Buffers** in order to transmit data from **MongoDB** to **Google Cloud BigQuery** for higher efficiency in transportation and serialization, saving an estimated **$400 per month** in data ingestion costs.

Full Stack Developer Intern   May 2021 – Aug 2021
Uptake Canada Inc. | Remote – Mississauga, ON

- Enhanced features and REST endpoints in a **Nest.js / Express.js** backend in order to modernize the **SQL Server** data layer and improve security by controlling third-party access.
- Overhauled the homepage loading mechanism using **TypeScript** to fix timeout issues and loss of data.

PROJECTS

RISC-V Operating System - Samudra [https://github.com/patwarir/samudra-os]
- Created an operating system for **RISC-V** computers in **Rust** that allows **WebAssembly** modules to be directly embedded into the kernel for maximum composability and extensibility.

Stack Assembly Language - Vertex [https://github.com/patwarir/vertex-mirror]
- Developed a new stack-based assembly programming language for a virtual machine in **C#** and **Rust**.