

DINESH SINGH

Senior Software Engineer

Personal info

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Links

- Dinesh94Singh
- Dinesh Singh

Skills

- Python, Rust, Java, Hack / PHP, TypeScript, Lua
- Mongo-DB, Redis, Oracle SQL, Scuba, Hive
- Kafka, Thrift-Rpc, GRpc, Avro
- Vespa AI Search Engine
- Btr-fs, Overlay-fs
- Andoid Systems Program-ming
- Spring Boot, Fast-API, React-JS
- NLP (B.E.R.T, N.E.R)
- AWS
- Git, Mercurial, Github, Github Actions
- Docker, Kubernetes, Jenkins, Locust, FBPKG, Tupperware
- NVim, Tmux, Bash

Education

- Masters in Computer Science (3.9 / 4.0)
University of Central Missouri, USA
- Bachelors in Information Technology (8.9 / 10.0)
GITAM University, India

WORK EXPERIENCE

Optum Inc

Mar 2023 – Current

- Leading the Backend development for Optum Match.
- Working on Creating scalable services which use different ML models like **NER (Spacy, Universal NER)**, **BERT** for **NLP** and **Vespa Search** for **Embeddings Search and Ranking** using **ONNX**, **Tensor-Flow ML models**, for all things related to Search and Personalization inside Optum and UHG.
- Implemented User-Behaviour tracking using **Kafka** and Consumed in data-bricks for Analytics work using **Avro**, **Confluent-Kafka** and **Schema-Registry**.
- Introduced **gRPC** for effective communication between micro-services.
- Created a Performance test tool which runs on **Jenkins** pipelines and gets triggered for every PR request and using **AWS Cloud-watch** analyzed the performance of the existing APIs and narrowed down the bottle-necks and helped improve the performance by 20%.

Facebook / Meta

Aug 2021 – Jan 2023

- Worked on building the services to maintain the infrastructure and play online games within **Facebook Cloud Gaming & Meta-verse / Horizon Worlds**.
- Implemented APIs using **Facebook Graph API** to help third-party developers access and deploy game binaries, game logs and host it on Facebook infrastructure.
- Implemented Security measures using **Facebook ENT and TAO Frameworks** and participated in Auditing calls from 3rd Party Agencies
- Implemented Staged Push deployments of game binaries using **CWS (Core-Workflow Services)**
- Implemented Catalog Management of game binaries using **socket based services** written in **Rust**
- Implemented **Async-workflow** services to register uploaded game-binaries for malware scanning of game catalogs and ensure the safety of the infrastructure.
- Worked with **Btr-fs** and **Overlay-fs** file-systems to create **Copy-on-Write** file-systems, for hot-mounting game packages
- Implemented **Over-the-Air** updates for large file-size games to reduce the download and install time by about 10-min.
- Implementing **Stress Test framework** to perform stress tests of 10,000 users daily run on Horizon worlds (Meta-verse) to travel, group travel / party travel and other user actions

Oracle Cerner

Jul 2017 – Aug 2021

- Worked on creating full-stack applications for Medical POC Systems, EMR Management.
- Worked on SOA with **Restful web services** using **Jax-Rs**, **Spring-Boot** for creating public endpoints and improving performance by introducing a scratchpad layer.
- Introduced a Version Engine in both **React Based Applications** and **Spring backend Architecture** as an **in-memory cache**, to reduce database calls and improve performance.
- Implemented **caching mechanisms** in Spring, which greatly enhanced the performance by about 35%.
- Introduced a testing framework for front-end applications, which allows different barcode scan workflows.
- Worked with different **React-15 Lifecycle methods** to prevent unnecessary re-renderings and improved load times by about 15%.
- Introduced **Redux** and **Sagas** frameworks into React Based projects and introduced a new testing framework - **WDIO** to better test the front-end code.