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| **Workload** | **Work** | **Customer** | **Year** |
| OpenSearch | * Looked at different types of searches(term, range) and their optimizations. * Documented workload optimizations those come with OpenSearch * Looked at **OpenSearch benchmark** tool, wrote **python** code to parse **test\_procedure json file** to mark admin and developer operations. * For developer operations, **operations json file** was parsed and the operation code was extracted. * This was done for all the workload in OpenSearch benchmark, **geonames** was recommended. * Looked at **Intel’s QAT** whitepaper for optimizations. | Freshworks  Requirement – Workload recommendation to test opensearch performance on their parent-child data | Q1 FY’23 |
| SSL/TLS1.3 | * Looked at OpenSSL to understand TLS client-server interaction which includes certificates and key exchange. (wsl shell) * Wrote a **C++ client and server** using openssl libraries where in which client-side and server-side validation is done, configured the cipher algorithm as per the customer requirements (**AES**). * Found a method to only allow TLS1.3 connections. | NSE  Requirement –TLS 1.3 implementation on client and server side. | Q1 FY’23 |
| MinIO | * Coded in python, an **ETL logic** to extract on-prem **TPCDS based data**, zip it, compress it and upload it to minio (a S3 object store). * Explored Minio and its different **Python Client API** offered like setting up buckets (DIR format), listing buckets, listing objects. Further attaching tags to objects and filtering results using **tags** like month, year etc. * Found **intel crypto** capabilities. | BPCL  Requirement – Batch-Data-Pipeline Flow | Q4 FY’22 |
| Apache Arrow | * Explored the potential use of **AVX512 optimizations**. * Wrote a Python code to run on Intel and AMD instances and compare the different metrics like sum, aggregation, order by, join. | X | Q4 FY’22 |
| Metabase | * Wrote a **Python script to import and export Dashboards** and questions from one metabase instance to another. | X | Q4 FY’22 |
| Kubespray | * Set up an AWS Kubespray cluster with 1 DevOps station 1 master and 2 worker nodes. * Learnt and configured **password-less SSH**. | X | Q4 FY’22 |
| Spark | * **Standalone** spark setup on local host. * Data processing with different file formats like **json and parquet**. * Reading from OLTP like **postgres and Cassandra**. * Data processing using **spark API** – sort, join, filter, order-by, group-by. * Spark ML done for **Linear Regression and NLP**. * Documented skills required for a spark developer. | X | Q4 FY’22 |
| Kafka | * Udemy course to understand the set-up and flow of Kafka. * Kafka benchmarking were documented. | X | Q4 FY’22 |
| PostgreSQL and HammerDB | * Installed and documented the installation on AWS and WSL. * Created **build and test file** to run HammerDB. (TPCC schema) * Looked at **TPCC database schema** created by HammerDB understood the relation. To understand the relation drew **ER-Diagram using Pg-Admin** tool. * Wrote different SQL queries to understand the relationship better. * **Tuned PostgreSQL** using postgres.conf file and ran HammerDB to understand the increased performance. * Documented all the work done. | X | Q4 FY’22 |

Current Work

* Testing the scripts written by Krishna.
* Understanding the python code for object\_detection model in open\_model\_zoo and optimizing it.
* Understanding openvino python model API and writing my own code.