

Ujjwal Kanth

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at Unbxd/Netcore



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Highlights

- Desinged & Built from Scratch
- Search/Recommendations Pipeline, 160+ million requests daily
- Catalog Sync Engine, analyses, enriches & indexes 1TB+ catalog data
- Inter-region/datacenter, cloud agnostic infra & network Topology
- In-House AI Pipeline using S3/Parquet Datalake & Kubeflow

Currently Working On

New Analytics/Reporting Pipeline, using Apache Flink, Clickhouse/Big Query & Apache Superset. [Beta]

Work Experience

NETCORE/UNBXD

Director Of Engineering [2022 - Present]

- New search-index on ARM with, **20-30%** better query performance
- New query-engine for search-index with support for new query types
 - Uses Custom DSL for communication
 - AST for DSL translation
 - **10-15%** better query formation efficiency for existing use cases
- Analytics/Reporting Pipeline [Beta]. Still in Active Development
- Product features
 - Improved User-Segmentation Support, improved latency by 40%
 - Design improvement to handles increase in scale for Recs stack
 - Improvements to Schema/Lifecycle management services
- Git based CD Pipeline (Gitops/FluxCD)
- Internal API Gateway handling inter-team API call
- ProtoBuf & GRPC adoption for Inter-Service communication
 - Improves overall data transfer times by 20% for requests
- UI Reporting improvements and warehousing using BigQuery
- **Catalog Ingestion Pipeline**
 - Event Driven Workflow Design
 - Auto-scalable based on data size & rate of ingestion
- Integrating Netcore's Marketing Tech with Unbxd for Recs
- **Document Store** for storing Catalog Data
 - Improved the serving latency by 30% by reducing the data overhead

Architect [2019 - 2022]

- **Inter Service Request Router**
 - Decides Network Topology based on Request Params
 - Uses Service DAG to handle routing

Engineer with **~14 yoe** with expertise in high performance, scalable systems & cloud infrastructure.

Skills

- Information Retrieval
- Distributed Systems
- Architecture Design

Languages

- Go
- Java

Education

B.Tech (2006-10)
Manipal Institute of Technology
(Sikkim)

Links

- uknth.me
- [uknth/dotfiles](https://uknth.github.io)
- [uknth/homelab](https://uknth.github.io/homelab)

#Tags From Resume

Solr, Microservices
Argo Workflows, Apache Flink
Apache Kafka, FluxCD
NATS, Go, Java, CockroachDB
EMR, Storm, Parquet, Datalake
ElasticSearch, Kubernetes

■ Event Driven Cross Region Communication

- Reliable inter-region sync of configuration & metadata
- Built on top of NATS (nats.io)

■ Design of **Datalake** built with S3 & Parquet, **AI Pipeline** built on top of Kubeflow

- Custom orchestrator handling model training, custom libraries handling data

■ Standarization of internal libraries

- Go (Starter Project, Common Library - github.com/unbxd/go-base)
- Java (Starter project based on Quarkus)

■ Multiple Service Contributions across the stack

Orchestrator, Query Analysis, Promotions, Tracker - Service, Analytics Pipeline etc.

Senior Software Engineer [2014-2019]

■ Edge Server, handling incoming request & inter-region routing

- HTTP API Gateway
- Handles all http-filter/http-middleware workload like logging, tracing etc.

■ Distributed Centralized Configuration System

- Heirarchal rule system based on tiers and groups
- Built on DGraph & NATS (for watching changes)

■ Query Pipeline

- From a single Monolith to Microservices Based Architecture
- Service separation of concern
- Custom Index Solution built on Solr(6.6)'s Fork
- Custom Solr-Plugin, Query Parser, Similarity Class, Search Component etc.

PARABLU INC.

Product Engineer [May, 2013 - Jan, 2014]

■ PHP Framework & Client Side Javascript & HTML5 APP using Angular JS & PhoneGap

MANHATTAN ASSOCIATES

Software Engineer [July, 2012 - May, 2013]

■ Warehouse Management System

- Development, maintenance, performance tuning & Unified multi staged operation to single stage

TATA CONSULTANCY SERVICES

Assistant Software Engineer [July, 2010 - July, 2012]

■ London Clearing House (Project)

- Maintained customisation for the client on TCS Bancs & Enhancements in Equity Management

Roles/Work/Hobbies

- Serves as chief arbitrator on **Architecture Review Board at Unbxd**

- Manages custom self-hosted homelab stack found on github.com/uknth/homelab

- Currently Reading [Trustworthy Online Controlled Experiment](#) for a New A/B Testing Framework