

# Ujjwal Kanth

Engineer @Unbx. IR, Distributed Systems & Architecture Design

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## Experience

### Unbx Inc., Bangalore — *Software Engineer*

Jan 2014 - PRESENT

#### Highlights:

- Design of Query Processing Pipeline
- Moved all the features, originally part of large monolith (modified Solr) to Microservices
- Introduced Kubernetes as orchestrator for Microservices
- Custom analysis chain which augments the query with our grammar, decoded by Solr to enhance result
- Multiple microservices which augments features in “Request” & “Response” pipeline
- Failover Reverse Proxy, written to act as Pass Through for valid response, and to kick in if there is an error
- Mesos driven Task layer, with library for catalog processing

#### Projects:

##### *Distributed Hierarchical Config Backend*

Solves the problem of configuration stored across various components in a distributed system.

- Provides a beautified wrapper on top of Graph store (Dgraph)
- Ability to watch for changes in the config tree
- Bulk store complete config files
- Exporters for common file formats
- Clients in Java, Go & Python
- Simpler compared to using Consul/Etcd

##### *Promotion Engine (Micro)*

Microservice to manage promotions applied on any given search term

##### *Query Analysis Engine (Micro)*

Microservice for query analysis.

- Figures out the most “relevant” term from dataset
- Adds related terms from dataset
- Converts into custom grammar
- Auto Phrase formation

## Skills

Distributed Systems  
Information Retrieval  
Architecture Design  
Application Design

## Languages

Java, Golang, Python

## Open Source

### Writer

Rotating File Writer in go  
- Implements io.Writer  
- Auto rotate file  
- (github) uknth/writer

### RVim

Runtime for Vim  
- Collection of plugins  
- (github) uknth/rvim

## Education

B. Tech (MIT, Sikkim)  
GPA 6.9

## Projects

### Simulation of Berkley's SNOOP Protocol

- Issue in Wireless transfer  
- Resolution using SNOOP

## Internships

- Pluggable, based on solr.analysis package

#### *Solr Plugin (Solr Plugin)*

Plugin for solr which decodes the query sent to it and returns the result

- Decodes custom query grammar
- Custom component for pinning documents to certain position
- Custom component for generating slots where a group of product can be featured

#### *Pass-Through Caching Failover (Micro)*

Custom pass through caching failover layer for production stack

- Always allows the request to be served from the stack
- Caches each request if it succeeds
- Acts as a failover if rest of the stack fails

### **Parablu Inc., Bangalore — Product Engineer**

May 2013 - Dec 2013

#### **Performance Fixes**

- Enhanced the performance of our front end UI by re-modelling the in-house PHP framework
- Client-side code (JS), processing more on client side

#### **HTML5 Mobile App**

for Android and iOS from scratch using AngularJS

#### **Internal Projects**

- Built internally used CRM tool
- Small Analytics tool to categorize the incoming traffic

### **Manhattan Associates, Bangalore — Software Engineer**

July 2012 - May 2013

#### **Warehouse Management**

- Developed & Maintained multiple versions of SCM product
- Performance tuning. eg: unify multi-stage wave operation to single-stage
- Managed Integration & Build Verification Testing

### **TCS, Bangalore — Assistant System Engineer**

July 2010 - June 2012

#### **(at) London Clearing House:**

- Maintained customizations for the client on TCS Bancs
- Enhancements in Equity Management (Custom C++/VMS component)

#### **BitWave Solutions (6 M)**

- Converted ERP to SAAS
- Hospital Management

#### **TCS LKO (2 M)**

- ASP.net Development
- CRM for NGO