Bhavdeep Sethi
500 Beale Street Apt 429, San Francisco, CA 94105 | sethi.bhavdeep@gmail.com | 646-667-6357
http://www.linkedin.com/in/bhavdeepsethi | www.deepmusings.net

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RELEVANT EXPERIENCE

Frec Markets, Inc.   San Francisco, CA
Founding Engineer   Feb 2022 - Current
- Designed and led the development of the Direct Indexing product that runs daily for all customers of Frec handling over $20 million in assets. Includes generating the trades, running heuristics to allow ops-review, placing the trade, updating status in near real time and internal monitoring tools.
- Designed and built the multi index functionality that extends the Direct Indexing product to multiple indices.
- Built most of the infrastructure for running a brokerage like trading, cash transfers, stock transfer, margin interest fee computation
- Built the notification infra that allows the company to send transactional emails to customers of Frec. The same infra was leveraged to inform the ops team of important activities on the platform.
- Built a job scheduling and execution platform to run stateful jobs on Frec. The infra is used for running various internal jobs on the platform like taking periodic snapshots, computing and applying various fees, fetching data from providers, running validations.
- Built a config service to allow dynamic updates of config values on the back end. Built a rule engine service on top of config service that allows ops team to apply restrictions on various operations (cash transfer, trading, etc.) across various dimensions (eg. user, account, trading a security, etc.)

Twitter, Inc.   San Francisco, CA
Staff Software Engineer   Dec 2019 - Jan 2022
Senior Software Engineer   Oct 2018 - Nov 2019
Software Development Engineer II   Feb 2016 - Sep 2018
- Tech Lead for Ads Marketplace team, a mix of Software Engineers and Data Scientist, responsible for operating Twitter's real-time internal ad auction which selects, places and prices billions of ads per day and has operational responsibility for $4.5B+ in annual ad revenue. The team focuses on optimally balancing operating points between user experience, advertiser value and revenue, ownership of ads A/B experimentation framework and responsibility for launch decisions for ads experiments.
- Led the design and implementation of Ads Marketplace Re-architecture
  - Designed a config-based abstraction that became the foundation of how ad products are defined, configured, classified, and
  - reported at Twitter
  - By decoupling major systems like Prediction and Billing, it reduced turnaround time to add new ad products from 4 weeks
  - to 20 mins. All subsequent ad products are now built using the new Product Config introduced by the re-arch.
- Led the design and implementation of separating out the Budget Pacing Controller from the Ads Serving stack
  - It allowed the PID controller to become more stable and enabled experimentation with advanced controller techniques like Reinforcement Learning
  - Budget Pacing Controller being one of the core components in ad-serving, this was a multi-quarter cross functional effort to ensure revenue parity with extensive experimentation. [Java, ZooKeeper, Distributed Systems]
- Involved in shepherding multiple teams across the ads organization for cross functional projects
  - By working on different projects across the ads stack, I've built a unique skillset to give technical advice during the design
  - phase for projects operating at the organization level
- Involved in design and implementation of breaking the monolith AdServer platform to micro services while maintaining existing scale (18k qps) and revenue ($3.6 Billion / year). [Java, Distributed Systems]
- Responsible for stabilizing and scaling the Lift Measurement platform (streaming and batch) to handle more scale. [Java, Scala, Apache Heron, Hadoop]
- Developed pCTR model for extending existing twitter campaigns to web exchange including feature transformation, feature selection and hyper parameter tuning. [Java, Scala, S3, Spark, Machine Learning]

TellApart (now part of Twitter, Inc.)   San Francisco, CA
Software Engineering Intern   Jun 2015 - Aug 2015
- Implemented the Online Training of the User Score Distribution Model in Bidder Service to rank users [Java 8, Guice, Redis]
- Implemented Collaborative Filtering with Matrix Factorization Algorithm using Alternating Least Squares. [Java 8, Spark, ML-lib]
- Developed platform to generate and evaluate various Recommendation models.

Flipkart.com   Bangalore, India
Senior Software Development Engineer   Jul 2012 - Jul 2014
Software Development Engineer   Oct 2011 - Jul 2012
Full Stack Developer (MIME360)   Aug 2010 - Sep 2011

- Designed and developed a platform that ingested over 1.2 TB data everyday from heterogeneous systems, normalized it, transformed it to user pivot and generated meaningful insights about the user [Java, YARN, Hbase, Storm, Kafka, TitanDB, Couchbase, Vertica, Dropwizard, ElasticSearch, MariaDB]
- Involved in the design and development of a new workflow engine for the Traffic Generation Team to achieve high throughput by parallelizing the workload using the Actor model [Scala, Akka, Hbase, RabbitMQ, ElasticSearch]
- Responsible for re-designing and developing the service responsible for sending all Transactional/Marketing communication (Email/SMS/PushApp Notifications) to the customers of Flipkart [RabbitMQ, Redis, HBase, MySQL, Apache Velocity]
- Implemented Recommendation Module for mp3 and eBooks using Item to Item Collaborative Filtering [Java, MapReduce, Redis]
- Developed the Meta and Content Ingestion System for Digital Platform scraping feeds in various formats (xml, json, csv) [Java, Spring Core, Hibernate, MySQL, CouchBase]
- Responsible for developing the company's core API along with modeling the Content Managing System (CMS) for the content [PHP, Memcache]

TECHNICAL SKILLS

Computer Languages	Java, Python , PHP, Scala, Perl, Ruby, C, C++, Node.js
Relational Store	MySQL, Oracle, MariaDB
Tuple / Columnar /Document Stores	Redis, Memcached, Couchbase / Hbase / CouchDB, MongoDB, ElasticSearch
Frameworks	Play+Akka, Spray, Ruby on Rails, Dropwizard, Spring 3.0, Jersey, Express
Message Frameworks	Kafka, RabbitMQ
Big Data	Hbase, Spark, MapReduce, Hive
AWS	EC2, EBS, SQS, SNS, SES, S3, EMR

EDUCATION

Columbia University, New York, NY
Master of Science in Computer Science, Machine Learning   Dec 2015
Relevant Courses: Machine Learning, Algorithms, Cloud & Big Data, Natural Language Processing

University of Mumbai, India
Bachelor of Engineering, Information Technology   June 2010
First Class with Distinction

ACHIEVEMENTS

- MSTA Fellowship - Columbia University, Spring '15
- Teaching Assistant – Big Data Analytics, Cloud & Big Data, Modern Internet App Development