

# ANKITA SINGH

Software Engineer

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## OBJECTIVE

Pursuing an opportunity to apply my knowledge and technical skills in a full time employment as a software developer.

## DOMAINS OF INTEREST

Full Stack Web Development | Scalable Web Services | Cloud Computing | Applied Machine Learning

## EDUCATION

**Masters of Science in Computer Science – 3.91**

**University of California, Santa Barbara (2015 – 2017)**

Scalable Internet Services | Cloud Computing | Advance Database Systems | Modern Runtime Systems | Data Driven Networks | Applied Machine Learning

**Bachelors of Engineering in Computer Science**

**Visvesvaraya Technological University (2009-2013)**

Ranked among the top 10 students, Awarded with First Division Distinction

## TECHNICAL PROFICIENCY

**Programming Languages:** Java | Ruby | C | SQL | C++ | Python

**Web Technologies:** REST-ful Web Services | HTML | JavaScript | AngularJS | jQuery | CSS | Bootstrap

**Frameworks/Services:** Rails | JAX-RS | Google app Engine | Jersey | AWS

**Tools:** Github | Pivotal Tracker | Tsung | Tableau

## EXPERIENCE

### Full Stack Web Developer Intern

*Scout Networks, San Francisco (June 2016 – September 2016)*

- Developed several new features for the app (mobile and web) by working on the Ruby on Rails codebase. (Dynamic referral system, new pricing scheme, partner-collaboration feature, several admin features etc.)
- Coordinated with the design/ marketing team to enhance the frontend to improve the overall user experience.
- Wrote exhaustive tests using Rspec.
- Key Technologies/Frameworks: Ruby on Rails, Javascript, JQuery, Gulp, Postgres, JSON, pivotal tracker

### Software Engineer

*Sasken Communications Technologies, Bangalore (November 2013 – July 2015)*

- Worked on RESTful Web development and Predictive analytics.
- Created interactive data visualization products focused on Business Intelligence using the BI tool tableau.

### Teaching Assistant

UC Santa Barbara, September 2015 – Present

- Managing 12 teams of senior level students as they built their capstone projects
- Facilitating communications between teams and industry contacts, managing project progress, and offering technical help whenever needed.
- Experience in project management, SCRUM, Pivotal Tracker etc.

## PROJECTS

### OpenCV-as-a-Service for on-demand image manipulation

- Highly available, scalable and reliable on-demand image manipulation service.
- Build using **Google Cloud Platform, Amazon Web Services**, used **Route 53** for load balancing between AWS and GCP.
- Client requests were pushed to the **Rabbit MQ clusters** and scaled using **Docker** instances.

### ***Ruby on Rails based Scalable Web Service - CrowdLib***

- A RESTful web App to handle large-scale traffic subjected to extensive scalability and availability testing.
- Location based, crowd sourced community library based on the geographic location.
- **Agile development** with rapid iterations using **Ruby on Rails**, deployed on **Amazon Web Services (Ec2)**.
- **Tsung** was used to stress test the application.
- Several performance optimizations: **client side caching, server side caching, query optimizations, vertical scaling, horizontal scaling, database scaling** etc.

### ***Distributed RESTful Web Service in Google App Engine***

- RESTful Web service with Jax-RS (Jersey) to understand the web-based software architecture of modern distributed runtime system.
- Used PaaS-Google App Engine, leveraged Google Cloud NoSQL Datastore for automatic scaling and high performance.
- Optimization using App Engine's memcache API.

### ***Implementation of the replicated commit protocol In Distributed systems***

- Designed, developed, and evaluated distributed data management protocol for synchronous data replication over multiple data-centers.
- Created a database interface layer to handle Database transactions committed to a distributed system consisting of several datacenters with several shards per datacenter.
- The transaction commits were replicated using the Two Phase Commit protocol in each datacenter, and the Paxos protocol was used to reach consensus among all the datacenters. Used YCSB as a benchmark to evaluate the system performance.

### ***A gen-next wearable to predict Heart attacks using machine learning algorithms***

- Did an extensive analysis of the data collected by FitBit and proposed a set of additional features to be included in the next-gen wearable.
- Leveraged several machine learning algorithms to accurately predict heart attacks. Concluded by comparing our prediction accuracies for the FitBit data with the baseline hospital data.

### ***Impact analysis of customer perception***

- Predicted the impact new businesses have on the customer ratings of the existing ones using data provided by the Yelp 2015 dataset challenge
- Clustered businesses together using DBscan and K-means and used various business attributes to model the changes in review ratings.
- Logistic Regression was used for training and prediction.

## **HONORS AND PARTICIPATION**

- Felicitated by the vice president of India for being in the **top 0.001%** of all the students appearing in the CBSE exams throughout the country.
- Awarded with the "**Kala Ratna Award**" (**Jewel of the Arts**) by the government of India.
- Organizing member of the **GNOME Asia summit -2011**, first ever GNOME summit held in India.
- Certified on **DYNAMIC SKILLS** including personal effectiveness, public speaking and leadership.