

SHUBHAM SINGHAL

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EDUCATION

MSCS, Georgia Institute of Technology, Atlanta, USA	Graduating in May 2020	3.33/4
B.tech. (I.T.), Indian Institute of Information Technology, Allahabad, India	June 2010 – July 2014	9.27/10

PUBLICATION

D. Tomar, S. Singhal, and S. Agarwal, "Weighted Least Square Twin Support Vector Machine for Imbalanced Dataset," Int. J. Database Theory Appl., vol. 7, no. 2, pp. 25–36, 2014

WORK EXPERIENCE

Software Engineer @Booking.com, Amsterdam **August 2018 to August 2019**

- **Deal of the Day (DOTD)**

Designed an algorithm to determine partners which would be eligible for the DOTD program. The program provides them better ranking in search results on the particular day. Wrote an **oozie Job** in **pyspark** on **Hadoop** clusters.

- **Campaign Microservice**

Implemented a microservice to create campaigns. **Alerting Monitoring** and **A/B testing** were integral part of the service.

Software Engineer @Microsoft India Development Center, India **March 2017 to August 2018**

- **Drive Vicinity**

Researched, designed and implemented the algorithm to fetch the drives data from **Amazon Redshift**, determining regions where people drive the most, pushing most visited locations to **S3** and exporting further down to **Postgres**.

- **Reporting Microservice**

Wrote a **microservice** to generate reports on users' drives. Microservice was deployed on **Kubernetes**, as **Docker** Containers. Service was written in **Python 3**, **Django**. Reports were generated asynchronously using **Redis** queue and **celery** workers. **Integration Testing**, code coverage with **Unit Testing** was maintained above 80%.

- **GDPR**

Wrote the service which will delete the users' data on request. Delete request could be withdrawn within 30 days.

Member of Technical Staff @Adobe Systems, India **July 2014 to March 2017**

- **2 way SSL in Adobe Experience Manager (AEM)**

Added the support for **2 way SSL** authentication using **Java** in AEM on web.

- **Adobe SignIn workflow**

Integrated Adobe Sign in the AEM workflow, asynchronously by multithreading. Threads kept on polling the Adobe Sign service to check for user's action, later they callback the workflow when user sign the document.

RESEARCH EXPERIENCE

Indian Institute of Technology, Bombay **Jan 2014-June 2014**

- **Eye Tracking for Natural Language Processing.**

To identify cognitive underpinnings in the text, an algorithm to generate consensus scanpath (eye movements) out of multiple scanpaths using **Bayesian Probability Reasoning** and **Hidden Markov Model** was proposed.

Indian Institute of Science, Bangalore **May 2012-June 2012**

- **Analysis of eye gaze scanpath data.**

To determine the dependency between different sentences in the text, an algorithm was proposed to convert scanpaths into an **undirected weighted graph** by combining saccades to form edges and fixations as nodes.

ACADEMIC PROJECTS

Generating sketches from photos and vice versa **Aug 2019 – Dec 2019**

Used semi supervised technique by generating pseudo image features - patch matching between input and output images. Later GANs were trained with pseudo features rather than ground truth features.

Classification of Images using Artificial Neural Network **Jan 2019 – May 2019**

Classified images using the connectionist model ANN. Classes were further classified into subcategories using another ANN for each class. Experimented with dimensionality reduction and SVM's to compare the efficiency.

Improving the efficiency of the Information Retrieval system **July 2013 – Dec 2013**

Disambiguated the sense of the ambiguous word in a query by looking at the context in which it is used to retrieve the best relevant documents in the Information Retrieval System.