# ANUPMA RAJ

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### **WORK EXPERIENCE**

### Master's Thesis

## **SAP & Technical University of Darmstadt**

Jan 2016 ~ July 2016

Extending Web Analytics with prediction models to detect anomalies in distributed web applications; PaaS Layer of Cloud

- Examination of existing predictive analytics algorithms and techniques.
- Identification and implementation of those which can be applied to predict future trends in the web analytics context.
- · Comparing resulting predictions with actual data to identify anomalous situations and trigger consequent alerts.

### **Student Cloud Platform Developer**

SAP

July 2015 - Jan 2016

SAP Web Analytics; Java; PaaS Layer of Cloud

Implementing and testing Data Reports for analyzing data collected through SAP Web Analytics.

### **Software Engineer, Intern**

### **Axel Springer**

Sep 2014 - Mar 2015

Designing and Implementing an Auto-Scaler for Cloud Foundry; Go; PaaS Layer of Cloud

- Wrote an Application level Auto-Scaler for CloudFoundry's Pivotal to automate the manual scaling process.
- Implemented threshold limits for 'Requests per second' metric.
- Accounted for inertia periods and instance startup and shutdown waiting periods.
- Completed the full project single-handedly in three months.

### **Bachelor's Thesis**

## National Institute of Technology, Karnataka

Aug 2012 - Apr 2013

Modified DCTCP Algorithm for Data Center Congestion Notification; C; laaS layer of Cloud

- Implemented an improved Data Center Transmission Control Protocol algorithm with two modifications in C entitled iDCTCP: implementing the Mark from Head Strategy, and eDCTCP: implementing the Binary Increase Strategy.
- iDCTCP and eDCTCP provide significant improvement over the performance of the current DCTCP by improving throughput for elephant traffic and decreasing latency for mice traffic.
- Solves the problems of incast, queue build-up and buffer pressure at the switch in data centers.

### **Computer Engineering Intern**

Indian Institute of Management, Ahmedabad

Jun 2011 – Aug 2011

- Customer Churn in the Telecommunication Industry through Data Mining
- Identified features that influence customer churn through literature surveys.
- Designed a questionnaire to collect feature relevant data from over 300 respondents.
- Analyzed it to define relationships between influential factors using SPSS Statistics and determine churn pivots.

#### **EDUCATION**

## **Darmstadt, Germany**

## **Technical University of Darmstadt**

August 2013 - Present

M.S.E. in Distributed Software Systems

• Graduate Coursework: Distributed Systems, Resilient Networks, Network Security, Middleware, Event Processing, Communication Networks, Software Engineering

## Karnataka, India

### National Institute of Technology Karnataka

July 2008 - July 2012

B.Tech. in Computer Science Engineering

 Undergraduate Coursework: Distributed Computing Networks, Cloud Computing, Advanced Comp. Networks, Data Structures and Algorithms, Operating Systems, Information Security, Artificial Intelligence, Software Engineering, System Programming

## Geneva, Switzerland

### **International School of Geneva**

July 2005 - May 2008

· International Baccalaureate Diploma in Math, Physics, Chemistry, Biology, English, French

#### **ADDITIONAL INFORMATION**

## **Programming Languages**

• Go; C; C++; Java; SQL; HTML;

### **Publications**

• iDCTCP: Improved DCTCP with Mark from Head Strategy for Data Center Networks [2013]

### **Certifications**

- TOEFL, Jan 2013: Total- 117/120. Reading- 30/30. Writing- 27/30. Listening- 30/30. Speaking- 30/30.
- GRE, Nov 2012: Total- 324/340. Quantitative Reasoning- 165/170. Verbal Reasoning- 159/170.

### Languages

• English (Mother Tongue); Hindi (Mother Tongue); German (B1 Certificate); French (intermediate)