

ROHIT KUMAR

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Languages: English(native fluency), Hindi(native), Spanish(A1)

RESEARCH INTEREST

Big Data platforms, Data Stream Mining, Graph Stream Mining and Distributed Processing, Data management, Data mining and Machine Learning, Data Security and Privacy.

SUMMARY

I have a diverse background with graduation in Physics and research training in Nanoscience followed by masters in Computer Science. After doing a successful start up derived from my master thesis and working in Indian IT company for 6.5 years, I moved to Europe to pursue my passion for research and knowledge. Currently, I am pursuing my Ph.D. in “Graph Data stream mining and distributed processing” from ULB(Brussels) and UPC(Barcelona). My research focuses on designing efficient one pass algorithms to analysis large interaction networks such as social media network. I have also worked on Influence maximization and Information propagation problems using Interaction network. While visiting UPC Barcelona, I worked on distributed graph processing and large graph data management, where I focused on using cost model based approach for adaptive graph partitioning on Apache GraphX. Currently, I am working on fraud detection by studying cyclic patterns on a transactional network. Apart from my research, I also work part-time as big data consultant working on different big data platforms, and conduct online courses for Big data systems like Hadoop ecosystem, Spark, Machine Learning using Python and Deep learning for an Indian company.

RESEARCH EXPERIENCE

ULB and UPC

PhD candidate

Aug 2014 - now

Brussels, Belgium and Barcelona, Spain

- Expected, a Ph.D. in “Graph Data stream mining and distributed processing” in June 2018 from ULB (Brussels) and UPC (Barcelona). The research focuses on designing efficient one pass algorithms to analysis large interaction networks such as social media network.
- Worked on social network analysis and viral marketing.
- Worked on Large graph processing and data management.
- Currently, working on fraud detection in transaction network.

TCS - Tata Research Development and Design Center

Researcher

April 2011 - September 2011

Pune, India

- Worked on data privacy, data security, and on developing data masking Tools in C++.

JNCSAR, IISC, Bangalore

Summer Research Intern

2004 - 2007

Bangalore, India

- Did two summer and one winter training in Nanoscience and Nanomaterials. Worked on synthesis and characterization of Carbon and Zinc Oxide nanotubes.

EDUCATION

Université Libre de Bruxelles (ULB), Belgium & Universitat Politècnica de Catalunya (UPC), Spain

August 2014 - Now

- Joint PhD in Computer Science

Chennai Mathematical Institute, India

April 2008 - March 2011

- M.Sc in Computer Science

Hindu College Delhi University, India

July 2004 - July 2007

- B.Sc(Hons) in Physics

INDUSTRY WORK EXPERIENCE

Royal bank of Scotland

June 2014 - July 2014

Software Designer

New Delhi, India

- Developing high availability query systems on Oracle Coherence.

Tata Consultancy Services

April 2013 - May 2014

Assistant Consultant

Mumbai, India

- Technical team lead for the development of TCS-iON Online Assessment platform. The platform is used in many high stack all India exams like JEE, Banking recruitment and government recruitment exams.
- Managed a team of 30 software developers.

Tata Consultancy Services

April 2011 - March 2013

IT Analyst

Mumbai, India

- Developed and deployed the complete Eco-system of the online assessment platform in multi-tenant architecture for software as a service model.

Tata Consultancy Services

Nov 2007 - March 2011

Assistant System Engineer

Chennai, India

- Lead architect to develop and deploy the massive online assessment platform for TCS hiring throughout India.
- Performance and Security Lead for the online assessment platform.

TECHNICAL SKILLS

Programming

Java, Scala, C++, R-basics, Python-basics

Databases

MySQL, MS SQL, MongoDB, Oracle Coherence

Tools

SVN, CVS, github, Eclipse, RStudio, Octave, Matlab, gnuplot

Others

Hadoop, Apache Spark, Apache Storm, Kafka, Struts 2, JDBC

PUBLICATIONS

- Cost Model Based Approach for Graph Partitioning in Spark GraphX. **Rohit Kumar**, Alberto Abello, and Toon Calders. **DBDBD 2017**.
- IMaxer: A Unified System for evaluating Influence Maximization Mechanisms in Location-based Social Networks. Muhammad Aamir Saleem, **Rohit Kumar**, Toon Calders, Xike Xie and Torben Bach Pedersen. **CIKM 2017** (DEMO Paper)
- Finding simple temporal cycles in an interaction network. **Rohit Kumar** and Toon Calders. **ECML/PKDD 2017** (Workshop paper)
- Activity-Driven Influence Maximization in Social Networks. **Rohit Kumar**, Muhammad Aamir Saleem, Toon Calders, Xike Xie and Torben Bach Pedersen. **ECML/PKDD 2017**
- Cost Model for Pregel on GraphX. **Rohit Kumar**, Alberto Abello, and Toon Calders. **ADBIS 2017**
- Information Propagation in Interaction Networks. **Rohit Kumar** and Toon Calders. **EDBT 2017**
- Location Influence in Location-based Social Networks. Muhammad Aamir Saleem, **Rohit Kumar**,

Toon Calders, Xike Xie and Torben Bach Pedersen. **WSDM 2017**

- Maintaining Sliding-Window Neighborhood Profiles in Interaction Networks. **Rohit Kumar**, Toon Calders, Aristides Gionis, and Nikolaj Tatti. **ECML/PKDD 2015**

PATENTS

- System and method for automated competency assessment (US8915744) - **Granted**
- Secured Computer Based Assessment (US20140186812A1) - Applied
- Customized question paper generation (US20130084554) - Applied

AWARDS AND ACHIEVEMENTS

- FNRS-Belgian National Funds for Scientific research, Scholarship for Doctoral Research Study.
- Best Technical Lead Award in ACTion2013 in SMB iON, TCS.
- Special initiative Award by TCS in May 2013.
- Technical Excellence Award by TCS in March 2012.
- Innovation of the year award southern region in TATA Innovista 2011.
- Senior Diploma in Arts and Painting from Ankan Kala Bibhag, Ravindra Bharti University in 2006.