

Cover Letter

A wise man once said: "Data is a precious thing and will last longer than the systems themselves". That man was Tim Berners-Lee.

Indeed, we are living in the world where Data is all that matters: how to acquire, store, transfer, transform and generate informative knowledge out of it. For this reason, and for many others, my career objective is to act as an expert in data management and work towards data driven future. One of the fascinating areas for data driven research is Computational biology. For example, data science is bringing new insight in the field of genomics, or in early stage cancer detection using image recognitions for better classification. The unique challenges and opportunities data science brings in the field of computational biology/biochemistry and the high real life impact of this research is what motivated me to look for position in D. E. Shaw Research.

My name is Rohit Kumar and I am a final year Ph.D. candidate doing a joint PhD in temporal graph mining from ULB, Belgium and UPC, Spain. My current fascination with data analysis comes from my diverse background. In my formative years, I was very curious on understanding how everything works which lead me to pursue graduation in Physics from the prestigious Hindu College in Delhi University. While I was doing my graduation, my curiosity to learn new things took me to do a 3-year summer internship in one of the most prestigious research institutes of India (Jawaharlal Nehru Centre for Advanced Scientific Research, JNCASR IISC Bangalore). I used to visit the research center every summer vacation for 1.5 months to do an internship as a research assistant to study Nanomaterials under the supervision of Prof CNR Rao as part for the POCE (Project-oriented chemical education) internship.

After finishing my graduation, I joined TCS (Tata consultancy services) and was working as a research and training assistance while doing my masters from CMI (Chennai Mathematical Institute). It was a joint program conducted by TCS and CMI wherein I use to go to university for my Master in Computer science course 2 days a week and work as research and training assistant in TCS for rest of the time.

After finishing my master's I moved to TCS- Mumbai where I worked for 3 more years on taking my master's thesis project from internal software used by TCS to a cloud-based service platform for Indian education and banking market. I worked as a technical lead designing and developing the online assessment platform for the Indian market. Currently, the platform is being used for all the high level major Online Exams in India. As part of this project I filled for 3 patents 1 out of which is already granted.

While working, it was impossible to ignore the fact that the world is advancing at a tremendously accelerated pace and paradigm shifts will arrive at increasingly shorter intervals, specifically in the field of Data Analysis, where changes are very apparent. Hence, the thirst to learn and try something new motivated me to move to Europe to peruse a Ph.D., where I was granted FNRS scholarship.

For the last 3.5 years, I have been doing research at top-notch universities across Europe, enriching my skills in Big Data, Stream Mining and Distributed processing. My research focuses on designing efficient one-pass algorithms to analysis large interaction/temporal graphs such as social media network. I have also worked on Influence maximization and Information propagation problems using Interaction network. Currently, I am working on distributed graph processing, where I focus on using cost model-based approach for adaptive graph partitioning on Apache GraphX.

To conclude, I believe I have got what it takes to make a valuable contribution to my team as I always do, and reflect my solid grounding for the benefit of my ultimate goal, that is doing what it takes to improve myself and my surrounding, and given the chance to work with D. E. Shaw Research will put me on the right track.