To Date: April 9, 2020

The Core Facility, Clinical Genomics

Faculty of Medicine

Linköping University

Linköping, SE-581 85

Dear Sir,

I am writing to express my strong interest in the “bioinformatiker” position in the Core facility of Clinical Genomics at the Faculty of Medicine, Linköping University advertised on the University website with the reference number “**BKV-2020-00371**”. As I have studied the role description, I have become increasingly excited at the degree to which my experiences align with the key role requirements across the board. I have been trained in computational programming since my undergraduate studies and I acquired more than eight years of experience of analyzing data, bigdata using bioinformatics and statistical approaches.

The skills I acquired in researching and completing doctoral studies in India, were fully based on the works with the ***Linux environment*** in workstation as well as in the **CLI**-based ***high-performance clusters*** and scripting languages like **Perl**, **Shell**, **R** and **python**. During my PhD and postdoctoral study, I became adept at navigating *large datasets* using *publicly available data* from different databases, *patient data* from the hospital and translating them in the data to get useful information. During my doctoral dissertation, I designed the pipelines to identify the microRNA targets in human diseases and their roles in the evolutionary perspective comparing with other epigenetic factors like DNA methylation and histone modifications. My postdoctoral study helped me to design and apply bioinformatics algorithms including ***unsupervised*** and ***supervised machine learning***, ***dynamic programming*** or ***graphic algorithms*** to create novel computational analytical tools as required by research goals. Besides, I am also involved to compile data for biologically based activities like *gene expression profiling*, *genome annotation*, *evolutionary rates calculations* in the areas of ***transcriptomics***, ***epigenomics***, ***functional genomics*** and ***clinical bioinformatics*** by analyzing large molecular datasets like *raw array data*, *genomic sequence* and *epigenomic data*. I believe that this experience strongly foreshadows the requirement of experience that is required for the advertised position.

Beyond my skill with analyzing data, during my doctoral studies, I learned to work with different teams, anticipate results and prepare responses, and meet each issue with a plan which is also reflected during my postdoctoral research when I collaborated with other members in the group as well as outside the group. In context, I have hands-on experience in different *molecular biology techniques* like ***PCR, cloning, sequencing*** which help me to understand the problems better, faced by the wet-lab researchers. From the core bioinformatic analysis to complex problem solving, to field-based experience with molecular techniques, I believe that my skills and experience make me an ideal candidate for this position.

Besides, I have the opportunity to *supervise two masters’ students* and *co-supervise* several masters’ students designing their bioinformatics analyses and interpret the results as part of their dissertation during my postdoctoral research. I was also involved in the teaching of basic and ***advanced graphics through R*** to PhD students at the Linköping University organized by *Forum Scientium*. Communicate research results through scientific publications or conference presentations, I am also involved in different workshops as a teaching guide to help others with the bioinformatics support to meet the specific research needs. In addition, I was also part of a collaborative project at Lima, Peru and supervised a student with the project. Having participated in different projects, courses and workshops, I learn to work on the multicultural background, and this increased my confidence in communicating my research to those outside my field and improved my intercultural skills. My scientific researches bring out *three first author* (two of them from doctoral study and one from postdoctoral study) and *two co-author* *peer-reviewed journal articles* so far and currently I have *four manuscripts in preparation*.

I would relish the opportunity to take all these experience and skills to collaborate with other researchers as well as biomedical experts, clinicians, molecular biologists. Considering myself as a quick learner with new knowledge and technologies, my experience in both research and academia on a multidisciplinary approach, I believe that gives me a unique opportunity to interact and collaborate effectively with scientists from different areas.

I look forward to hearing from you shortly.

Yours sincerely,

Jyotirmoy Das, Ph.D.