Ikram Ullah

Studentbacken 21/1515
Gärdet, 11557
Stockholm

ikramu@kth.se
+46 73 936 6175
http://www.nada.kth.se/∼ikramu/

OBJECTIVE

To model and implement market-based eco-friendly solutions for challenging problems utilizing sound mathematical principles, latest software and hardware technologies.

EDUCATION

Doctor of Philosophy, Computer Science
Kungliga Tekniska Högskolan, Sweden *Jun 2010 – Dec 2014*
Concentration: Machine Learning
Minor: Bioinformatics

Exchange Student, Computer Science
University of Limerick, Ireland *Mar 2009 – Aug 2009*
Concentration: Software Engineering

Master of Science, Computer Science (CGPA 3.47 out of 4.0)
Lahore University of Management Sciences (LUMS), Pakistan *Sep 2006 – Aug 2009*
Concentration: Artificial Intelligence
Minor: Software Engineering

Bachelor of Science, Computer Science (CGPA 3.8 out of 4.0)
University of Peshawar, Pakistan *Jan 2002 – Mar 2006*
Concentration: Computer Science
Minor: Mathematics

PROFESSIONAL EXPERIENCE

Chief Data Scientist *April 2014 onward*
Greenely, Sweden
Greenely is a startup about eco-friendly intelligent energy management. The idea is to optimize household electricity consumption using machine learning based energy disaggregation algorithms and user behavior mining.

- Implementing energy disaggregation algorithms
- Leading technical team
- Managing and optimizing the server-side of the software
- Tools used are R, PostgreSQL, Java and Go.

Analyst Software Engineer *Oct 2009 – May 2010*
SATMAP Inc, Machine Learning Team, Pakistan
SATMAP is an enterprise call center application used for intelligent call routing used by Fortune 500 companies like AT&T, Gieco, Time Warners Cables etc. I worked with a team of algorithm designers in:

- Evaluating novel machine learning/data mining algorithms on call center data.
- Implementing, testing, and integrating selected algorithms with SATMAP.
- Tools used were combination of C++, SQL Server, R, and Rapidminer.

Research Assistant *Dec 2007 – Oct 2008*
Computer Science Department, LUMS, Pakistan

- Woking with XVCL: an open source library providing component based Document/View Architecture support for developers. Implementation was mainly in Java.
- Teaching assistant for Advanced Software Engineering course

Consulting/Freelancing *Mid-2008 onwards*
Odesk Corporation Odesk profile link
I started consulting at rentacoder.com (now acquired by freelancer.com) and then switched to odesk.com, offering consultancy mainly for machine learning projects. Some of these include:

- Stock value analysis and prediction using association rule mining (using R and Java)
- Quality based classification of barcode images using computer vision algorithms (using Matlab)
- Text classification using different machine learning algorithms (using Rapidminer and Java)

Details on any of above (and those not listed here) can be furnished on demand.

Software Internee *Summers 2007*
Five Rivers Technologies, Lahore

- Part of the group implementing a dual streaming/synchronization server for mobile devices using Funambol DS Server and video streaming APIs.

TEAM-LEAD EXPERIENCE

- I have managed a small team of developers in Pakistan during my consultancy career. Major responsibilities included task allocation, time allocation, and ensuring team collaboration.
- Recently, I am leading a group of KTH masters students in Greenely project. Major responsibilities include task allocation, task synchronization, and team motivation.

COMPUTER SKILLS

Languages: C++, Java, C#, R, Matlab
Misc Tools: Bash, CMake, Python, Boost C++ libraries, OpenMPI & Boost-MPI, MySQL, SQL Server, RapidMiner, Weka, Git, SVN, Netbeans, Eclipse, and different Bioinformatics tools.
HPC Clusters: Developed software using 4 Swedish Unix-based super computers (Ferlin, Triolith, Tintin, and Abisko)
Operating Systems: Unix, Windows and OS X.

RESEARCH SOFTWARE

- **PrIME** – PrIME is a C++ library with tools for phylogenetic inference. Computationally, the emphasis is on probabilistic models that typically employ a Markov Chain Monte Carlo (MCMC) based sampling.
- **JPrIME** – JPrIME is the Java based implementation of PrIME with computational optimization of existing tools, and inclusion of additional tools for phylogenetic inference.
- **DLRSOrthology** – DLRSOrthology is a program for Bayesian probabilistic orthology analysis using an integrated gene evolution and sequence evolution model as outlined in the DLRS model. The implementation is in GNU C++ using Boost and PrIME libraries while the auxiliary scripts are written in R, Python and Perl.

- **MixTreEM** – MixTreEM is an MPI based parallel implementation of a novel species tree inference algorithm using mixture model. The software is writtten in C++ and Boost-MPI routines are used for making the code parallel.

AWARDS/ ACHIEVEMENTS

1. Recipient of Doctoral grant for PhD studies.
2. Recipient of University financial assistance award in Masters based on academic ranking.
3. Recipient of University scholarship in Bachelors, based on academic performance.
4. Recipient of Ministry of Science and Technology scholarship for undergrad studies, awarded to top 250 students throughout Pakistan.

PUBLICATIONS

1. Integrating Sequence Evolution into Probabilistic Orthology Analysis – accepted in *Systematic Biology* (Impact factor 11.53)
2. Species tree inference using a mixture model – *in Manuscript*
3. IThresholdPicker: An interactive threshold picker for performance evaluation in ROC based analysis – *in Manuscript*

REFERENCES

- Dr. Jens Lagergren
  Professor in computer science and computational biology
  KTH & Scilifelab Stockholm
  http://www.nada.kth.se/∼jensl/
- Dr. Lars Arvestad
  Senior lecturer in computational biology
  Stockholm University & Scilifelab Stockholm
  http://www.nada.kth.se/∼arve/