

Asif Javed

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Education

Rensselaer Polytechnic Institute Troy, NY
Ph.D., Computer Science, (CGPA 4.0), December 2008.

University of Illinois at Chicago Chicago, IL
M.S., Computer Engg., (CGPA 3.9, C.S. GPA 4.0), May 2004.

University of Engineering and Technology, Lahore Lahore, Pakistan
B.S. in Electrical Engineering (with honors) 2000.

Research Interests

Statistical and Computational Genetics, Design and Analysis of Algorithms, Bioinformatics, Data Mining, Parallel Algorithms.

Work Experience

Postdoctoral Researcher December 2008 - Present
Computational Biology Center, IBM T. J. Watson Research Yorktown, NY

Research Intern May 2008 - August 2008
Computational Biology Center, IBM T. J. Watson Research Yorktown, NY

Teaching / Research Assistant August 2004 - December 2008
Rensselaer Polytechnic Institute Troy, NY
Courses: Computer Science 1, Models of Computation, Randomized Algorithms

Teaching / Research Assistant August 2001 - May 2004
University of Illinois at Chicago Chicago, IL
Courses: Random Signal Processing, Analog Communication Circuits, Computer Architecture, Digital Logic

Teaching Assistant August 2000 - August 2001
Lahore University of Management and Sciences Lahore, Pakistan
Courses: Discrete Mathematics, Algorithm Design, Advanced Algorithm Design Circuits and Systems 1, Algorithms in Computational Biology

Publications

- A. Javed, P. Paschou, M.W. Mahoney, and P. Drineas, *Reconstructing the genome with PCA-correlated tSNPs*, under submission.
- L. Parida, A. Javed, M. Mele, F. Calafell, and J. Bertranpetit, *Minimizing Recombinations in Consensus Networks for Phylogeographic Studies*, (to appear in **BMC Bioinformatics**), Asia Pacific Bioinformatics Conference, January 2009.
- L. Parida, A. Javed, M. Mele, and J. Bertranpetit, *A case for Recombinomics*, IBM Technical Report RC24677, August, 2008.
- A. Javed and P. Paschou, *Extracting tagging SNPs from genome-wide datasets*, **Data Mining for Biomedical Informatics**, workshop held in conjunction with 7th **SIAM Conference on Data Mining**, April 2007.

- P. Paschou, M.W. Mahoney, A. Javed, J.R. Kidd, A.J. Pakstis, S. Gu, K.K. Kidd, and P. Drineas, *Intra- and inter-population genotype reconstruction from tagging SNPs*, **Genome Research**, January 2007.
- P. Drineas, A. Javed, M. Magdon-Ismail, G. Pandurangan, R. Virrankoski, and A. Savvides, *Distance matrix reconstruction from incomplete distance information for sensor network localization*, 3rd Annual IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (**SECON**), September 2006.
- A. Javed and A. Khokhar, *Frequent pattern mining on message passing multiprocessor systems*, Distributed and Parallel Databases-An International Journal (**DAPD**), November 2004.
- A. Javed and A. Khokhar, *Scalable parallel algorithm for mining frequent patterns on message passing parallel systems*, ISCA Parallel and Distributed Computing Systems (**PDCS**), August 2003.

Awards/Activities

- ★ Program Committee Member, *Data Mining for Biomedical Informatics*, workshop held in conjunction with 8th *SIAM Conference on Data Mining*, April 2008.
- ★ Reviewer for *ACM Transactions on Sensor Networks*.
- ★ Received **IPAM** travel grant to attend *Search and Knowledge Building for Biological Datasets*, workshop held as a part of *Mathematics of Knowledge and Search Engines*.
- ★ Received **NSF** travel grant to attend *SECON 2006*.
- ★ Senior design project, *Efficient Implementation of RSA algorithm* was awarded **2nd** prize among **250** students.
- ★ Received *National Merit Scholarship* throughout undergraduate studies.

Presentations

- P. Paschou, J. Lewis, A. Javed, and P. Drineas, *Using principal components analysis to identify candidate genes for natural selection.*, poster presentation at **ASHG** annual meeting 2008.
- A. Javed, *Novel Matrix Decomposition for Knowledge Discovery in Genomic Data*, white paper presentation at **Cyber-Enabled Discovery and Innovation**, NSF symposium held at RPI, Sep. 2007.
- A. Javed and A. Khokhar *Parallel Frequent Pattern Mining*, poster presentation in **Midwest Database Symposium** in April 2004.
- *Parallel Association Rule Mining using Frequent-Pattern Tree data structure* for **IEEE Lahore** in Jan. 2003.

Computer Skills

Operating Systems: Microsoft Windows, Unix, Linux

Programming Languages: C/C++, Assembly (x86 architecture), Perl

Parallel Programming: MPI 1 & 2, OpenMP

Tools: Matlab, bash shell scripting, L^AT_EX

Course Projects

- C compiler using lex and yacc
- k-mean clustering and naive bayesian classifier
- Parallel foveation using OpenMP
- Parallel quicksort with load balancing using MPI
- Estimation of optimal processor parameters
- Face detection and recognition using Eigenfaces

References

- **Petros Drineas**, Associate Professor, CS dept., Rensselaer Polytechnic Institute
- **Laxmi Parida**, Research Staff Member, CBC, IBM T. J. Watson Research
- **Mohammed J. Zaki**, Professor, CS dept., Rensselaer Polytechnic Institute