
Nima Ghaemian, MSc Candidate

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Work Experience

Hi-Tech, Research

Analyst, Developer 2006 - Present

RIPI, Research Institute of Petroleum Industry (RIPI)

- High Performance Computing, Performance Analysis And Tuning, Re-Engineering An Enterprise Application

Contractor 2005 - 2006

Faculty of Mathematical Sciences, University of Tabriz

- Research towards BPR and ERP Adoption

Researcher 2005 - 2006

Center of Industrial Mathematics, University of Tabriz

- E-Learning Adoption

Director 2004 - 2005

Secretariat of 7th International Seminar on Differential Equations and Dynamical Systems (DEDS7), University of Tabriz

- Official and Technical responsibilities

Analyst,Programmer 2004 - 2005

Center of Industrial Mathematics, University of Tabriz

- Modeling, Optimization and Linear Programming

Supervisor 2002 - 2004

PC-Hall Network of Faculty of Mathematical Sciences, University of Tabriz

- Supervision, Maintenance

Other

Director 2003 - 2004

Department of E-Media, Ardabil-e-Farda Press Institute

- Website Design and Management, Electronic and Printed Publicity Policy Making, Printed Graphics Design, Management of Hardware Resources

Software Services

Programmer,Consultant 1997 - 2004

Teaching, Web Design, System Programming and Consultation, (corporations: BavarCo. (Ardabil), ToranjAva(Ardabil), Computer Age (Ardabil), informal consultation to Pazhooheshiar (Tabriz), and network programming for faculty of Mathematical Sciences, University of Tabriz.

Teaching

Core Courses Taught

- Concurrent Programming
- Primary Programming course
- Advanced Programming course
- Data Structures
- Principles of Databases

Courses created and developed

- Essentials of CyberJournalism
- System Programming

I have taught these courses for the following companies and organizations:

- Iran University of Science and Technology (As Co-Lecturer)
- University of Tabriz (As TA)
- University of Applied Science and Technology
- The Ministry of Islamic Culture and Guidance
- Local Companies

Projects

Academic Projects and Seminars

- Secure routing for adhoc networks
- Developing an engineered E-Auction System
- Developing an engineered UI for a Reservation ATM system
- Design and Implementation of a CMS (via Oracle DBMS and C#)
- An Agent Based Approach to Apply Aspect Oriented Security for Java Applications in Distributed Systems

Other Projects

- SIREN: A communications protocol for the web plus a simulator
- B2L+ : Vector-Enabled SPROL
- MIRRORS and LENSES: A Simulator developed in SPROL
- SPROL: A 4G Language with full featured IDE
- General Security Management Package for universities

Education

Master's degree in IT Engineering

Iran University of Science and Technology (IUST)

Concentration in Software Design and Development

Supervisor: Dr. Mohsen Sharifi, Advisor: Dr. Brian Whitworth; Seminar Title: A survey on cross-compilers and build systems in heterogeneous distributed environments for high performance computing; Thesis Title: Performance modeling and evaluation of computer clusters; Awarded as Top Student among the students of entrance year of 2006 at Computer Engineering Department of IUST (2008)

Bachelor's degree in Mathematics

winter 2005

University of Tabriz

Concentration in Applied Math

Some Specific Courses I have passed (units) : Calculus(12), Mathematical Analysis(8), Algebra(4), Linear Algebra(4), Programming(8), Differential Equations(3), Data Structures(3), System Analysis and Design(3), Fuzzy Mathematics(2), Physics(8), Statistics and Probabilistics(8), Operational Research(8), Numerical Analysis(8), Discrete Mathematics(4), Stochastic Processes(4), Mathematical Logic(3), Complex Analysis(4), Time Series(4), Machine Language(3), Graph Theory(4)

in Journalism

Summer 2002

The Ministry of Islamic Culture and Guidance

Concentration in Modern Methods of Journalism (Reporting)

Publications

Articles

- “Proposal for a National Fashion Organization” Nima Ghaemian. *First National Festival for NewIdeas*, 2002.
- “Cultural Borders of Global Village” Nima Ghaemian. *Instructors Research Institute, The ministry of Education*, 1997.
- “Programming perception of talented students” Nima Ghaemian. *The ministry of Education*, 1996.
- “True ISM, humanism research” Nima Ghaemian. *The ministry of Education*, 1995.

Books

- *Calculus with Analytic Geometry and Linear Algebra Using MATLAB*. S.H. Javadpour, S.N. Hosseini, Nima Ghaemian, and Karim Ivaz (editor). Alavi, Tehran, .
- *Advanced Engineering Mathematics Using MATLAB*. Karim Ivaz and Nima Ghaemian. University of Tabriz, Tabriz, .

Conference Papers

- “(Accepted and Withdrawn) Performance Prediction for High Performance Computing Applications on Compute Unified Device Architecture of Graphics Card Processors” Nima Ghaemian, Asaad Abdollahzadeh, and Mohsen Sharifi. *The 2008 International Symposium on Applied Computing and Computational Sciences (ACCS 2008)*, Hong Kong, August 2008.
- “(Accepted and Withdrawn) Accelerating the GMRES iterative linear Solver of an Oil Reservoir Simulator using the Multi-Processing Power of Compute Unified Device Architecture of Graphics Cards” Nima Ghaemian, Asaad Abdollahzadeh, Zoltan Heinemann, Hossein Beyrami, Andreas Harrer, Mohsen Sharifi, and Gabor Heinemann. *PARA2008, Workshop on State-of-the-Art in Scientific and Parallel Computing, Minisymposium on Scientific Computing on GPUs*, NTNU, Trondheim, Norway, May 2008.
- “An Agent Based Approach to Apply Aspect Oriented Security for Java Applications in Distributed Systems” Mohsen Sharifi, Behrouz Minaei, and Nima Ghaemian. *International Conference on*

Application of Information-Communication Technologies in Science and Education, Qafqaz University, Baku, Republic of Azerbaijan, November 2007.

- “Definition and Design of a Distributed Ad-Hoc Routing algorithm” Nima Ghaemian and Karim Ivaz. *3th Computer Engineering Conference of Higher Education Center of Iranian Academic Center for Education*, Tehran, July 2005. TOP researcher second rank

Speaking Events

- “Compute Unified Device Architecture of Modern Graphics Cards: State-of-the-Art, cost-efficient Solution for High Performance Computing” First joint workshop on Mathematical Modeling and Meteorological Forecasting, RCIMUT and I. R. of Iran Meteorological Organization (IRIMO), June 18, 2008.
- “(Withdrawn) Accelerating the GMRES iterative linear Solver of an Oil Reservoir Simulator using the Multi-Processing Power of Compute Unified Device Architecture of Graphics Cards” PARA2008, Workshop on State-of-the-Art in Scientific and Parallel Computing, Minisymposium on Scientific Computing on GPUs, May 2008.
- “An Agent Based Approach to Apply Aspect Oriented Security for Java Applications in Distributed Systems” International Conference on Application of Information-Communication Technologies in Science and Education, Qafqaz University, Baku, Republic of Azerbaijan, November 2007.
- “Definition and design of an ad-hoc routing algorithm” JDIOC Conference on Computer Engineering, May 2006.

Qualifications

- **Advanced Concepts:** High Performance Computing, Distributed and Parallel Programming, Multicore Programming, General Purpose GPUs, Performance Analysis and Tuning for Enterprise Applications, Formal methods for Concurrent Programming, Aspect Oriented Programming, Modern Software Development Methodologies, Human-Computer Interaction, Super-Compilers, Security Mechanisms, AdHoc Routing, Classic and Modern Databases (from ISAM to Object Oriented Databases), Virtualization Technologies (Xen Hypervisor)
- **Programming Languages:** Intel 80x86 Machine Language and Assembly, Brook for GPU, C, C++, C#, Cg, Cilk, CUDA C, Java, Fortran, HPF, Perl, Python, Tcl/Tk, Network Simulator(NS), Mathematics Related Languages (MATLAB, LINGO etc.), Basic Family, Multithreading APIs (OpenMP, MPI,...), Common Scripting Languages, Common Web Related Languages (Programming, Markup), Common Modeling Related Languages (UML, OCL,...), Common Formalism Languages (CSP, CCS,...)

Achievements

- Top Student. Iran University of Science and Technology (IUST), 2008
- Top Researcher Second Rank Award: Definition and design of an ad-hoc routing algorithm. Third Computer Conference of JDIOC, Tehran, IRAN, 2005
- Accepted for Exhibition: A plan for a national organization. First national festival of New Ideas, Tehran, IRAN, 2003
- Semi-final elect and First Rank of Province: Defining a communication protocol. First youth Khwarizmi festival, Tehran, IRAN, 1999
- Appreciable: VectorEnabled SPROL. First youth Khwarizmi festival, Tehran, IRAN, 1999

- Semi-final elect and First Rank of Province: SPROL, Design and Implementation of a 4GL Language and its IDE. 13th international Khwarizmi festival, Tehran, IRAN, 1998
- First Rank. Programming Competition of the province, 1998
- First Rank. Programming Competition of the province, 1997
- Accepted for Exhibition: Mirrors and Lenses Simulator (with Mahyar Tayefi). 7th national physics conference (student section), 1997
- Second Rank: a research in the humanities. The ministry of education, undersecretary of research, Ardabil, 1995

Associations

Technical Program Committees

- Director of Secretariat, 7th International Seminar on Differential Equations and Dynamical Systems, 2005

Academia/Research

- Director of Secretariat, 7th International Seminar on Differential Equations and Dynamical Systems, 2005

Other Associations

- Member, Research Center of Industrial Mathematics, University of Tabriz (RCIMUT), 2005
- Member, Distributed Systems Research Laboratory (DSL), Iran University of Science and Technology, 2006
- Researcher/Analyst/Developer, Research Institute of Petroleum Industry of Iran (RIPI), 2006 - 2008
- Member, Association of Iranian Journalists, 2002 - 2003
- Member, Ardabil Press House, 2003 - 2005

Additional Items

Research Interests

- High Performance Computing
- Distributed HPC
- On-Die HPC (GPGPUs, Multicore etc.)
- Cloud Computing and HPC Cloud Services
- Performance Modeling and Evaluation of HPC systems
- Formalism of HPC concepts
- Super-Compilation and Transform Programming