

SHYAMAL MITRA

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Profile

Highly qualified and experienced Teacher, Researcher and Software Engineer with:

- Strong computing skills through mastery of C++, Java, and Fortran in a Unix and Windows environment
- Research experience in software development for numerical analysis applications in a distributed environment using adaptive grid techniques
- Research experience in Grid middleware – Globus, Condor-G, and Network Weather Service and understanding of OGSA and OGSF
- Proficient in UML and use of Rational Rose, Object Oriented Analysis and Design, Data Visualization using AVS, HTML, and COM
- Experienced in presenting tutorials on DAGH (Distributed Adaptive Grid Hierarchy), a software package, at the NCSA meeting in Champaign-Urbana, IL (April, 1998) and at the Supercomputing 97 meeting in San Jose, CA (November, 1997).
- Research experience in observational astrophysics in data analysis and modeling
- Outstanding communication skills gained from years of teaching undergraduate computer science, physics and astronomy courses

Professional Experience

The University of Texas at Austin, Texas **2003 - present**

Lecturer in the Department of Computer Sciences

- Taught undergraduate classes in computer programming, analysis, and design

The University of Texas at Austin, Texas **2001 - 2003**

Research Associate at Texas Advanced Computing Center

- Installed and maintained Grid software – Globus, MPICH-G2, Condor-G, and Network Weather Service.
- Developed training material and gave lectures on High Performance Computing.
- Involved in research in peer-to-peer computing with Computer Sciences faculty members.

Schlumberger, Austin, Texas**2000-2001****Software Engineer II**

- Directly responsible for developing the Units Conversion module using UML for design and implementing the module in C++ and COM.
- Developed a user interface for the Units Conversion component as an Active X control in Visual Basic. The Units Conversion component was integrated into the Horizon software package being developed by the Data Acquisition Group.

The University of Texas at Austin, Texas**1997 - 2000****Research Fellow in the Department of Computer Sciences**

- Enhanced, maintained, supported, and documented a software package (DAGH) written in C++ that was run on a parallel machine using MPI. This package was used in the numerical computations for the Binary Black Hole Grand Challenge Project. (<http://www.cs.utexas.edu/users/dagh>)
- Designed and wrote modules in AVS for data visualization of composite materials.
- Installed Globus on Sun workstations and benched marked the performance with a numerical solver on the Data Grid.

Southwestern University, Georgetown, Texas**1995 – 1997****Database Programmer**

- Developed application programs using the database software package from Datatel. These programs provided administrative support for payroll and academic support for the Registrar.

Southwestern University, Georgetown, Texas**1990 – 1997****Assistant Professor of Physics**

- Taught undergraduate physics and astronomy courses.
- Directly involved in the site selection and establishment of a 16-inch Meade telescope.

The University of Texas at Austin, Texas**1988 - 1990****Research Scientist Assistant in Astronomy**

- Performed photometric and spectroscopic observations of galaxies.
- Developed computer programs in Fortran to analyze and model observational data.
- Catalogued galaxies for “The Third Reference Catalogue of Bright Galaxies”

Education

- **Ph.D. in Astronomy**, The University of Texas at Austin, Texas (1988)
Dissertation: "A Study of the Southern Supercluster"
- **M.A. in Astronomy**, The University of Texas at Austin, Texas (1983)
Thesis: "Polarization Study of RY Tau"
- **M.Sc. in Astronomy**, Osmania University, Hyderabad, India (1979)
Passed First Class with Distinction
- **B.Sc. in Physics (Honors)**, Calcutta University, Calcutta, India (1975)
With Mathematics and Chemistry as Minors

Professional Development

- Web Development, Microsoft Academic Days, Las Vegas, NV, November, 2005.
- .NET course from Developer.com, Los Angeles, CA, July, 2002.
- Attended the Globus workshop at the Argonne National Laboratory, January, 2002.
- Presenting Data and Information course from Dr. Edward Tufte, Austin, TX, March, 2001.
- COM Programming course from Developer.com, Los Angeles, CA, May, 2000.
- Rational UML course from Rational, Austin, TX, February, 2000.
- Windows Programming course from Developer.com, Los Angeles, CA, January, 2000.
- Data Visualization using AVS from Advanced Visual Systems, Boston, MA, August, 1998.

Presentations

- Presented the "Deployment of NMI Components on the UT Grid" at the NMI Integration Testbed Results Workshop in Arlington, VA (April, 2003).
- Presented a tutorial on DAGH (Distributed Adaptive Grid Hierarchy), a software package, at the NCSA meeting in Champaign-Urbana, IL (April, 1998).
- Presented a tutorial on DAGH at the Supercomputing 97 meeting in San Jose, CA (November, 1997).
- Presented a paper at the 173rd meeting of the American Astronomical Society at Boston, MA (1989).
- Presented a poster paper at the international meeting on "Large Scale Structure and motions in the Universe" at Trieste, Italy (1988).
- Presented a poster paper at the international conference "Le Monde des Galaxies" at Paris, France (1988).

Publications

- Mitra, S., et al., 2005, Proceedings of FIE 2005 Conference.
- Gomez, R., et al., 1998, Phys. Rev. Lett., Vol. 80(18), p. 3915.
- Cook, G. B., et al., 1998, Phys. Rev. Lett., Vol. 80(12), p. 2512.
- Abrahams, A. M., et al., 1998, Phys. Rev. Lett., Vol. 80(9), p. 1812.
- Buta, R., Mitra, S., de Vaucouleurs, G., Corwin, H. G., 1994, Astronomical Journal, Vol. 107(1), p. 118.
- Mitra, S., 1989, Astronomical Journal, Vol. 98(4), p. 1175.
- Mitra, S., 1989, Bull. of the American Astron. Soc., Vol. 20, No. 4, p. 1101.
- Mitra, S., 1989, The World of Galaxies, (New York: Springer-Verlag), p. 426.