The First SC CoSMIC Student Conference on Computational Sciences and Engineering

Supported by the National Science Foundation
October 20-22, 1995
The University of Houston-Downtown
Houston, Texas 77002

I. HIGH SCHOOL STUDENTS

- **Measuring Strong Currents by Their Magnetic Field: A New Method**
  Misha Koshelev, Cathedral High School, and *Joseph Pierluissi*, Department of Computer and Electrical Engineering, University of Texas at El Paso
- **Testing Earthquake Damage Prevention Methods with Simulated Fractal Earthquakes**
  Misha Koshelev[1] , Cathedral High School, El Paso, Texas

II. UNDERGRADUATE STUDENTS

- **A Language for Exabyte Data Processing, and its Use at Sunspot Observatory**
  German Altgelt, Department of Computer Science, University of Texas at El Paso
- **A Study on Interval Lagrange Interpolation**
  Angelina Cardenas, Department of Computer and Mathematical Sciences University of Houston-Downtown
- **Internet-Accessed Data Transforms an Approximate Computer Simulation of a Spacecraft into a Verified 3D Model**
  Frank Fernandes, Department of Computer Science, University of Texas at El Paso University of Texas at El Paso
- **An Introduction to Protein Structure Determination from X-ray Diffraction**
  Stephanie A. Hoogendoorn, Department of Computer and Mathematical Sciences, University of Houston-Downtown
- **Neural Network Pattern Recognition and Image Analysis in Cellular Rotation Studies**
  Chester L. Jones, Department of Computer and Mathematical Sciences, University of Houston-Downtown
- **Distributive Computation on Mandelbrot Fractals with PVM**
  Robert Robinson, Department of Computer and Mathematical Sciences, University of Houston-Downtown
- **Investigating the Effective Return Rate for Two Investment Strategies: Lump Sum and Dollar-Cost Averaging**
  Pedro G. Sepulveda, Jr., Department of Computer and Mathematical Sciences, University of Houston-Downtown
- **Alpha Beta Coordinates of Neptune's Magnetic Field**
  Kevin A. Storr, Physics Department Prairie View A & M University
- **On Implementation of Non-uniform Rational B-Splines**
  Carlos G. Uribe, Department of Computer and Mathematical Sciences University of Houston-Downtown

III. GRADUATE STUDENTS

- **Interval-Based Internet Reservation Techniques In Which a Message with a Deadline is Either not Accepted, or Delivered by the Deadline**
  Manoranjan Baral, Department of Computer Science, University of Texas at El Paso
- **Computing the Value of a Boolean Expression with Interval Inputs is NP-Hard**
  Leticia S. Chee, Department of Computer Science and Department of Electrical and Computer Engineering, University of Texas at El Paso
- **Chemical Computers as Universal Approximators**
  Brian Cloteaux, Department of Computer Science, University of Texas at El Paso
- **Games Writing as an Instructional Tool**
  Carlos M. Gameros, Department of Computer Science, University of Texas at El Paso
- **A Modularly Configured Attached Processor for Fast Fourier Transform**
  Olga Kosheleva, Department of Electrical and Computer Engineering, University of Texas at El Paso
- **Towards a More Realistic Definition of**

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[1] Under the supervision of *Dr. Nemir*, Department of Computer and Electrical Engineering, University of Texas at El Paso

Feasibility
Douglas Schirmer and *Vladik Kreinovich*, Department of Computer Science, University of Texas at El Paso

- **Comparative Evaluation of MCM and WSI Schemes for Implementing a Modularly Configured Attached Processor Architecture**
  Sanjay J. Singh, Swaroop K. Nagabathula, Vijay P. Singh, and *Glenn A. Gibson*, Department of Electrical and Computer Engineering, University of Texas at El Paso
- **The use of Interior Point Methods for solving the Phase Problem in Crystallogrphy**
  Leticia Velazquez, Department of Computational and Applied Mathematics, Rice University