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WORK ADDRESS

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OBJECTIVE

A research and development position in computer software/systems design. Specific areas of interest include Integrated Development Environment (IDE) for object-oriented parallel/distributed network/multithreaded computation, and graphics user interface.

EDUCATION

08 / 1995 Ph.D., Computer Sciences, Purdue University, West Lafayette, Indiana
08 / 1993 M.S., Computer Sciences, Purdue University, West Lafayette, Indiana
Received GPA 3.71 / 4.00.
12 / 1989 M.S., Mechanical Engineering, University of Michigan, Ann Arbor, Michigan
Received GPA 8.13 / 9.00 (between A to A+).
06 / 1985 B.S., Naval Architecture, National Taiwan University, Taipei, Taiwan
Received GPA 3.56 / 4.00 and graduated with honors.

PROFESSIONAL EXPERIENCE

2003-present Sun Microsystems, California, staff engineer.
Developed Sun's new generation IDE tools for Java Web applications -- NetBeans Visual Web, Web Frameworks and Java EE, and Sun Java Studio Creator.

1997-2003 Sun Microsystems, California, member of technical staff.
Developed Sun Studio / WorkShop multithreaded/sampling performance tools -- Performance Analyzer / T.E.A. (Thread Event Analyzer) / BAT (Behavior Analysis Tool) / SunPerf projects.

1995-1997 Argonne National Laboratory, Illinois, postdoctoral researcher.
Researched into automatic differentiation, specializing in compiler technology, parallel network computing, numerical methods and discrete algorithms.

1991-1995 Purdue University, Indiana, part-time research assistant.
Researched into parallel/distributed computation, graphics interactive user interface, shape optimization, and finite element analysis: mesh generation & decomposition.

1994 National Hsin-Chu Teacher's College, Taiwan, part-time teacher.
Taught the course "Introduction to computer science: Computer architecture & information system".

1990-1991 Purdue University, Indiana, part-time research assistant.
Developed programs for the neural network in artificial intelligence.

1988 Jutsun International CO., LTD., Taiwan, part-time database designer.
Developed programs for inventory management of the export trade.

1987-1988 National Taiwan University, Taiwan, full-time research assistant.
Designed and programmed device drivers for computer graphics.

1985-1987 Navy, Taiwan, full-time database designer.
Developed programs for inventory management of bombshells.

1984-1985 Kuang-Jen High School, Taiwan, part-time teacher.
Taught numerical analysis and computer programming.

COMPUTER SKILLS

- Developed web tools for NetBeans Integrated Development Environment (IDE) brings together the power of the Java Platform, Enterprise Edition (Java EE), with the kind of simplified development model acknowledged by many developers as the most effective, most productive working environment. Techniques include JavaScript, JavaServer Pages, Servlets, JavaServer Faces, Struts, Portlets/Facelets, Web Services, EJB, and HTML/XML.
- Developed performance tools for Java, C/C++, and FORTRAN languages. Skilled of assessing the performance of codes, identifying potential performance problems, and locating the part of the code where the problems occur.
- Have programming experience of (1) system and network programming - Job Control & Scheduling, Thread, IPC, TCP/IP, JAVA RMI, CGI, HTML, and VRML on UNIX systems: SunOS, Sun Solaris, IBM AIX and PC Linux, (2) portable object-oriented parallel programming - MPI, OOMPI, PICL and Fortran-M for clusters of workstations, and on the IBM SPx, nCUBE, Intel Paragon and iPSC machines, (3) internationalization techniques - I18N, and L10N, and (4) assembly languages on three different machines - IBM PC, APPLE II, and UNIVAC.
- Programmed a variety of user-interactive graphics applications such as performance analyzer, solid modeling, rendering, mesh generation, contour visualization, curve fitting, 3-D graphics, and hidden line elimination on the Java JDK (Swing and AWT), X-Window system (Motif, Tcl/Tk, and GRAFIC), Microsoft Visual Studio, CALCOMP, and GKS/GSS graphic systems.
- Proficient in more than ten programming languages, and mastered Java, C/C++ OOP, FORTRAN and Perl.
- Designed an interpretive system for Finite Element Analysis in Mechanical Engineering. Have experience on Solid Modeling and Engineering Analysis of PATRAN, I-DEAS, Vecfem, and XoX.
- Familiar with a variety of packages such as various Database management systems, Office suites, Photo Graphics editors, Non-linear Video studios, CAD/CAM software applications.

PUBLICATIONS (6 Journals, 12 Conferences, 14 Technical Reports)

- [1] Christian Bischof, Poting Wu and Martin Buckner, "Time-parallel computation of pseudo-adjoints for a leapfrog scheme", *International Journal of High Speed Computing*, **12-1**, (2004) 1-27. Also available as *Eighth SIAM Conference for Parallel Processing for Scientific Computing*, SIAM, (March 1997), and *Technical Report ANL/MCS-P639-0197*, Mathematics and Computer Science Division, Argonne National Laboratory, (January 1997) 1-19.
- [2] Christian Bischof, Poting Wu and Martin Buckner, "Exploiting intermediate sparsity in computing derivatives for a leapfrog scheme", *Computational Optimization and Applications*, **24-1**, (2003) 117-133. Also available as *Technical Report ANL/MCS-P572-0396*, Mathematics and Computer Science Division, Argonne National Laboratory, (January 1997) 1-15.
- [3] Poting Wu and Prakash Narayan, "Multithreaded performance analysis with Sun Workshop Thread Event Analyzer", *Proceedings of the SIGMETRICS Symposium on Parallel and Distributed Tools (SPDT-98)*, ACM, (August 1998), p. 161. Also available as *White Paper*, High Performance Computing Environments Division, Sun Microsystems, (July, 1998) 1-22.
- [4] Yang Zhang, Richard Easter, Poting Wu and Christian Bischof, "Sensitivity analysis of a multi-phase chemical mechanism using automatic differentiation", *Journal of Geophysical Research*, **103-D15**, (1998) 18953-18979. Also available as *1996 DOE's Atmospheric Chemistry Program Annual Meeting*, (November 1996), 19-21, and *Technical Report ANL/MCS-P680-0897*, Mathematics and Computer Science Division, Argonne National Laboratory, (August 1997) 1-57.
- [5] Yang Zhang, Poting Wu, Richard Easter, Christian Bischof, and Carl Berkowitz, "Automatic differentiation as a tool for sensitivity analysis of O3 photochemistry in the southeastern U.S.", *The 1997 American Geophysical Union (AGU) Fall Meeting*, (December 1997).
- [6] Poting Wu, Christian Bischof, and Paul Hovland. "Using ADIFOR and ADIC to provide jacobians for the SNES component of PETSc", *Technical Report ANL/MCS-TM-233-1197*, Mathematics and Computer Science Division, Argonne National Laboratory, (November 1997) 1-39.
- [7] Yang Zhang, Richard Easter, Christian Bischof and Poting Wu, "Sensitivity analysis of O3 and photochemical indicators using a mixed-phase chemistry box model and automatic differentiation technology", *90th Air & Waste Management Association Annual Meeting and Exhibition*, No. 97-265,

(June 1997) 1-16. Also available as *Technical Report ANL/MCS-P679-0897*, Mathematics and Computer Science Division, Argonne National Laboratory, (August 1997) 1-16.

- [8] Poting Wu, Elias N. Houstis and John R. Rice, "EPPOD: A problem solving environment for parallel electronic prototyping of physical object design", *Journal of Parallel and Distributed Computing*, **42-2**, (1997) 157-172. Also available as *Third Annual Symposium on Parallel Computation and Problem Solving Environments*, DAGS, (July 1994) 135-151, and *Technical Report CSD-TR-94-043*, Department of Computer Sciences, Purdue University, (June 1994) 1-16.
- [9] Poting Wu and Elias N. Houstis, "Parallel optimization based electronic prototyping of physical parts", *Parallel Algorithms and Applications*, **9**, (1996) 237-263. Also available as *International Conference On Parallel Algorithms*, ICPA'95, (October 1995).
- [10] Poting Wu and Elias N. Houstis, "Parallel adaptive mesh generation and decomposition", *Engineering with Computers*, **12-3/4**, (1996) 155-167. Also available as *Third Annual International Meshing Roundtable*, Sandia National Laboratories, (October 1994) 411-431, and *Technical Report CSD-TR-95-012*, Department of Computer Sciences, Purdue University, (February 1995) 1-19.
- [11] Shahani Markus, Sang Bae Kim, Kostas N. Pantazopoulos, Andrew L. Ocken, Elias N. Houstis, Poting Wu, Sanjiva Weerawarana and David E. Maharry, "Performance evaluation of MPI implementations using the parallel ELLPACK PSE", *MPI Developers Conference*, MPIDC96, (July 1996). Also available as *Technical Report CSD-TR-96-044*, Department of Computer Sciences, Purdue University, (July 1996) 1- 8.
- [12] Christian Bischof, Timothy L. Knauff, Jr., and Poting Wu, "Parallelizing time in a leapfrog scheme", *Second International Workshop on Computational Differentiation*, SIAM, (February 1996).
- [13] Poting Wu and Elias N. Houstis, "Parallel electronic prototyping of physical objects", *Technical Reports CSD-TR-95-054*, (revised in August 1995) 1-128, and *CSD-TR-93-026*, (April 1993) 1-48, Department of Computer Sciences, Purdue University.
- [14] Elias N. Houstis, Sang Bae Kim, Shahani Markus, Poting Wu, Nicholas E. Houstis, Ann C. Catlin and Sanjiva Weerawarana, "Parallel ELLPACK elliptic PDE solvers", *Technical Report CSD-TR-95-042*, Department of Computer Sciences, Purdue University, (June 1995) 1-13.
- [15] Shahani Markus, Sang Bae Kim, Nicholas Houstis, Elias Houstis, Ann Catlin, and Poting Wu, "Parallel methodologies for legacy scientific software", *Intel Supercomputer Users' Group (ISUG) '95 North American Conference*, Sandia National Laboratories, (June 1995).
- [16] Poting Wu and Elias N. Houstis, "Parallel dynamic mesh generation and domain decomposition", *Technical Report CSD-TR-93-075*, Department of Computer Sciences, Purdue University, (October 1993) 1-49.
- [17] Poting Wu, Elias N. Houstis and John R. Rice, "Geometry as a basis for parallel analysis and design of physical objects", *Second U.S. National Congress on Computational Mechanics*, USACM, (August 1993) Abstracts: p. 72.
- [18] Poting Wu and Elias N. Houstis, "XXoX: An interactive X-window based user interface for the XoX solid modeling library", *Technical Report CSD-TR-93-015*, Department of Computer Sciences, Purdue University, (January 1993) 1-47.

ACTIVITIES AND HONORS

- Member of The International WHO'S WHO Historical Society Professionals, since 2002.
- Member of The Association for Computing Machinery (ACM), since 1995.
- Member of The Upsilon Pi Epsilon Association (An Honor Society in Computer Sciences), since 1993.
- Member of The U.S. Association for Computational Mechanics (USACM), since 1993.
- Member of The Institute of Electrical and Electronics Engineers (IEEE), since 1988.
- Member of The American Society of Mechanical Engineers (ASME), since 1988.
- Book Coupon Awards, National Taiwan University, Taiwan, 1985.
- Scholarships by Wu Foundation, Taiwan, 1984 & 1985.

REFERENCES

Available upon request.