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**EDUCATION**

Clemson University, Ph.D. (Computer Engineering), 2000 GPA 3.85/4  
Dissertation: "Problem Solving Environment Infrastructure for High Performance Computer Systems"  
Clemson University, M.S. (Computer Engineering), 1993 GPA 3.65/4.0  
Focus Area: Computer Systems Architecture  
Clemson University, B.S. (Electrical Engineering), 1991 GPA 3.5/4.0

**EXPERIENCE**

**Clemson University**

- 2000 - Present, Department of Electrical and Computer Engineering,  
Assistant Professor/Research Scientist.
  - Administration of Computational Mini-grid (5 interconnected Beowulf clusters, totalling 800+ processors)
  - Consulting and training users on parallelizing applications for the Center for Advanced Engineering Fibers & Films (Clemson and MIT) and the Clemson University Genomics Institute
  - Development of system software, problem solving environments, and visualization software for mini-grid
  - Management of administration staff (2 full time, 4 part time) for mini-grid and all bioinformatics systems
  - Undergraduate and graduate teaching
  - Director of undergraduate recruiting
  - Student advising
  
- 1997-2000, Department of Electrical and Computer Engineering,  
Graduate Teacher of Record
  - Taught courses, managed teaching assistants, coordinated undergraduate laboratories.
  
- 1992-1997, Department of Electrical and Computer Engineering,  
Research Assistant
  - Worked in the Parallel Architecture Research Laboratory on a variety of projects, including problem solving environment infrastructure for clusters and configurable computers, parallel electromagnetics codes, and satellite telemetry systems

**Consulting**

- 2000, Scyld Corporation, Annapolis Md
  - Developed training materials and documentation for the Scyld Beowulf Operating System - delivered training at the National Security Agency
- 1996, CommScope Corporation, Hickory, NC
  - Developed software to simulate the behaviour of a large inventory of coaxial cable which had been contaminated with a conducting fluid.
- 1995, AT&T Global Information Systems, Liberty, SC
  - Developed and taught a three week course in architecture and assembly language of Intel processors.

## Other

1993-1995, NASA -Goddard Space Flight Center/ Computer Sciences Corporation  
Greenbelt, MD

-Worked Full-time on-site during summers and as a research assistant at Clemson during the year developing a custom multiprocessor telemetry system. The system was used for the design and test of the Advanced Composition Explorer spacecraft and to receive telemetry from the Radarsat satellite.

1990 AT&T Bell Laboratories Middletown, NJ, Technical Assistant

## SELECTED PUBLICATIONS

DeBardleben, Ligon, Stanzione, "Coven - a Framework for High Performance Problem Solving Environments ", *Proceedings of the 11<sup>th</sup> IEEE Conference on High Performance Distributed Computing*, IEEE Computer Society Press, July, 2002

DeBardleben, Ligon, Stanzione, "The Component Based Environment for Remote Sensing", *Proceedings of the IEEE Aerospace Conference*, IEEE Computer Society Press, March, 2002

Daniel C. Stanzione Jr. and Walter B. Ligon III, "Problem Solving Environment Infrastructure for High Performance Computer Systems", *Parallel and Distributed Processings: Proc of the Workshops of IPDPS 2000*", pp. 314-323, Springer-Verlag, May, 2000

Stanzione, Ligon, and Martin, "Spatially Decomposed Multigrain MOM Problems on NOWs", *Proc of the Eighth IEEE Int'l Symposium on High Performance Distributed Computing*, pp. 149-155, IEEE Computer Society Press, August, 1999.

Stanzione, Ligon, Underwood, et al, "Developing Applications in RCADE", *Proceedings of the IEEE Aerospace Conference*, IEEE Computer Society Press, March, 1999

Stanzione, Ligon et al, "A Development Environment for Configurable Computing", *Configurable Computing: Technology and Applications*, pp. 103-112, SPIE- The Int'l Society for Optical Engineering, Vol. 3526, November, 1998.

Stanzione, Ligon, et al, "Implementation and Numerical Analysis of Numerical Components for Reconfigurable Computing", *Proceedings of the IEEE Aerospace Conference*, IEEE Computer Society Press, March, 1999

Stanzione, D.C. and Ligon, W.B., "Distributing and Load-Balancing FOR Loops in Scientific Applications", *Computer Architecture News*, pp.9-17, Vol. 24, No. 3, June, 1996

### NASA Technical Reports:

MacTAC Synchronizer Card, Revision B, Hardware Definition Document", NASA-GSFC 521-H/W-035.

MacTAC Controller Card, Revision B, Hardware Definition Document", NASA-GSFC 521-H/W-047.

"Macintosh Telemetry and Command System User's Guide", NASA-GSFC 521-UG-001

### Poster Presentations:

" Problem Solving Environment Infrastructure for High Performance Computers", Supercomputing, 1998.

"The Clemson Environment for Computer Aided Application Design", European Science Foundation Conference on Problem Solving Environments, 2000.

## **SHORT COURSES**

“Using and Programming the Mini-grid”, presented at the Massachusetts Institute of Technology, May, 2002.

## **RESEARCH INTERESTS**

Parallel programming, scientific computing, Beowulf clusters, scheduling in computational grids, alternative architectures for computational grids, reconfigurable/adaptive computing, algorithms for high performance bioinformatics, computer & network security.

## **COURSES TAUGHT**

ECE 893, Parallel Processing Seminar  
ECE 449, Computer & Network Security  
ECE 329, Design and Implementation of Operating Systems  
ECE 201, Digital Circuit Design  
ECE 202, Circuit Analysis  
Engr 120, Engineering Problem Solving

## **AWARDS AND AFFILIATIONS**

IBM Computational Science Fellow  
NSF-EPSCOR Computational Science Fellow  
Harris award for Outstanding Teaching Assistant  
Industrial Graduate Fellow  
Clemson Presidential Alumni Scholar  
Tau Beta Pi, Eta Kappa Nu, Golden Key , Dean's List  
Member, IEEE, IEEE Computer Society, ACM