Phillip L. Nico

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Education

Ph.D.	University of California, Davis	Computer Science	September, 2001
M.S.	University of California, Davis	Computer Science	March, 1994
A.B.	University of California, Berkeley	Computer Science	May, 1991

Dissertation Research

Implicit Scheduling of Time-Critical Applications. (Advisor: John Feo)

SERT is a language and compiler approach for specifying the timing requirements of real-time applications and automatically generating parallel schedules for them.

Academic Experience

California Polytechnic State University, San Luis Obispo; Assistant Professor, September 2000–present.

University of California, Davis; Associate Instructor, September 1998–June 1999.
Taught *Computer Organization and Machine-Dependent Programming* for three quarters.
Lawrence Livermore National Laboratory; Computer Scientist, July 1994–July 1998.
Developed SERT, an automatic parallelization and scheduling system for real-time applications.
University of California, Davis; Teaching Assistant, April 1994–June 1994.
University of California, Davis; Research Assistant, September 1993–March 1994.
Investigated the applicability of zero-knowledge proof systems to authentication with Matt Bishop.
Lawrence Livermore National Laboratory; Computer Scientist, July 1993–September 1993.
Investigated cache behavior of functional *vs.* imperative languages.
University of California, Davis; Teaching Assistant, September 1992–June 1993.
University of California, Davis; Research Assistant, July 1992–September 1992.
University of California, Davis; Teaching Assistant, September 1991–June 1992.

Related Professional Experience

Chemoil Corporation, San Francisco, California; Programmer, May 1991–September 1991.
Teradyne EDA, Santa Clara, California; Programmer, May 1990–August 1990.

Courses Taught

Fundamentals of Computer Science I
Computer Architecture I
Systems Programming I
Introduction to Operating Systems
Introduction to Computer Security (new in Spring 2006)
Graduate Computer Architecture (co-taught)
High-Performance Clustered Computing (independent study)
Algorithmic Problem Solving (Topics in CS)
Computer Organization and Machine-Dependent Programming

Selected Masters' Committees

J. Sosinski, *Electronic Voting Systems: A Requirements Analysis*, July 2004

D. Gridley, *Active Network Algorithm Performance on a Network Processor: Adaptive Metric Based Routing and Multicast*, June 2004

E. Hawkins, *The* `PF_CINIC` *Protocol Family Interface*, November 2003

M. Bhatt, *Heuristic-guided Assessment of the Biodiversity of Complex Microbial Communities Using 16S Ribosomal DNA Terminal Restriction Fragment Patterns*, December 2002

J. Hatashita, *Evaluation of a Network Co-processing Architecture Implemented in Programmable Hardware*, March 2002

A. Melara, *Performance analysis of the Linux firewall in a host*, June 2002

Selected Senior Projects

Collins, M. G., and Goring, R. J. *Autonomous mouse*, March 2005

Kelsey, A. S., *Implementing a hardware random number generator using radioactive decay as a random source* , December 2004

N. Brummond, *An Implementation of Development Tools for the CUSP System*, March 2004

Z. Jadia, L. Gschwend, and C. Le, *Battle Arena MP—A multiplayer network game*, June 2003

N. Kocharhook, *Implementation of a Hierarchical Buddy List for a Multi-Protocol Instant Messenger Client*, June 2003

M. Myers, *Developing Network Device Drivers for Linux and Minix*, March 2003

C. Burtt, *An In-Line Ethernet Packet Counter*, March 2003

J. Kwek, *An Implementation of the* `select()` *Linux System Call Running on the Cal Poly Intelligent Network Interface Card Platform*, June 2002

M. Roth, *Design and Implementation for the CiNIC Device Driver v2.0*, June 2002

Publications

P. Nico, C. Turner, and K. Nico. Insecurity by Contract. In *Proceedings of the 8th IASTED International Conference on Software Engineering and Applications (SEA 2004)*, pages 269–274, Cambridge, MA, November, 2004.

K. Kredo II, A. Liddicoat, H. Smith, and **P. Nico**. A Flexible Platform for Network Processing. In *Proceedings of the 2004 IASTED International Conference on Communications and Computer Networks (CCN)*, pages 55–60, November, 2004.

E. Hawkins, **P. Nico**, and H. Smith. Toward a common host interface for network processors. In *Proceedings of the 2003 IASTED International Conference on Communications, Internet, & Information Technology (CIIT)*, November, 2003.

P. Nico, C. Turner, and T. Kearns. Can the programmer's job be de-skilled? In *Proceedings of the 2003 IASTED International Conference on Software Engineering and Applications (SEA)*, pages 380–384, November, 2003.

J. Hatashita, J. Harris, H. Smith, and **P. Nico**, An evaluation architecture for a network coprocessor. In *Proceedings of the 2002 IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS),* pages 548–553, Cambridge, Massachusetts, November, 2002.

P. Nico, J. Feo and R. K. Yates, Implicitly parallel real-time signal processing. In *Proceedings of the 1997 ACM SIGPLAN Workshop on Languages, Compilers and Tools for Real-Time Systems*, pages 11-18, Las Vegas, Nevada, June, 1997.

M. Farrens, P. Ng and **P. Nico**, A comparison of superscalar and decoupled access/execute architectures. In *Proceedings of the Twenty-Sixth Annual International Symposium on Microarchitecture*, pages 100-103, December, 1993.

P. Nico and A. Park, Caching in on Sisal: Cache performance of Sisal vs. Fortran. In *Proceedings of Sisal '93*, pages 85-90, October, 1993.

Technical Reports

P. Nico, C. Turner, and T. Kearns, The death of the programmer? Technical Report CPSLO-CSC-02-01, California Polytechnic State University, Computer Science Department, October 2002.

A. Park, M. Farrens, and **P. Nico**. Using coherent cache clusters as multiported memories in large-scale parallel systems, Technical Report CSE-92-25, University of California, Davis, 1992.

Invited Talks

Automatic Scheduling for Real-Time Signal Processing
California State University Hayward, Department of Mathematics and Computer Science Colloquium. November, 2001

How "Programmers" should be "Engineering Software"
California Polytechnic State University, Upsilon Pi Epsilon Academic Interest Panel Discussion. February 2004

An Evaluation Architecture for a Network Coprocessor
California Polytechnic State University, Electrical Engineering Graduate Seminar. November, 2002

Professional Activities

Referee

IEEE Transactions on Computers 2003, 2004
IEEE International Conference on Communications (ICC) 2002
International Association of Science and Technology for Development (IASTED), International Conference on Software Engineering and Applications (SEA) 2002
Parallel Architectures and Compilation Techniques (PACT) 1998
High Performance Functional Computing (HPFC) 1995

Professional Affiliations

Member of the Association for Computing Machinery (ACM)
Member of the Institute of Electrical and Electronics Engineers (IEEE) Computer Society
Member of the International Association of Science and Technology for Development (IASTED)

Honors

Computer Science Professor or the Year
Cal Poly Association for Computing Machinery. June 2005.

Certificate of Appreciation
Cal Poly Engineering Student Council. February 2004.

Most Inspirational CPE Instructor
Cal Poly Computer Engineering Program. June 2003.

Certificate of Appreciation
Cal Poly Engineering Student Council. February 2003.

Best Computer Engineering Instructor in Office Hours
Cal Poly Computer Engineering Program. June 2002.

University Service

At Cal Poly

In the College of Engineering (CENG):

Computer Engineering Program Representative to CENG Curriculum Commmittee, 2002–03.

In Computer Science (CSC):

Member of the CSC Fairness committee, since Fall 2005.
Member of the CSC Curriculum Committee, since Winter 2003, Chair Winter 2005-Summer 2005.
Member of the CSC Curriculum Committee, Foundations Subcommittee, Fall 2003.
Member of the CSC First Year Committee, Spring 2002.
Member of the CSC Facilities Planning Committee, Fall 2001.
Member of the CSC CSC101 Coordination Committee, Fall 2000–Fall 2002.
Member of the CSC Fun! (Social) Committee, Fall 2000–Winter 2002.
Member of the CSC Resource Acquisition Committee, 2000–2001.

In Computer Engineering (CPE):

Member of the CPE Curriculum Committee Fall 2001–Spring 2004, Chair 2002–03.
CSC Faculty Representative on the CPE Student Fee Allocation Committee 2002–2004.
Member of the CPE Council since Fall 2001.
Member of the CPE Scholarship Committee, Spring 2002.

Club Activities:

Coach of ACM Programming Contest Team since Spring 2001.
Co-advisor to the Cal Poly Linux Users' Group (LUG) since Fall 2003.

Before Cal Poly

U. C. Davis Computer Science Department Graduate Student Association President, 1996–1997