Theodore P. Pavlic

Contact Information

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Security Clearance

Department of Defense Top Secret SCI with polygraph (expired: 2002)

Citizenship

USA

Research Interests

Control theory, communication theory, behavioral ecology, cooperation theory, engineering education

Education

The Ohio State University, Columbus, Ohio USA

M.S., Electrical and Computer Engineering (expected graduation date: June 2007)

- Thesis Topic: Optimal Foraging Theory Revisited
- Advisor: Professor Kevin M. Passino
- Area of Study: Control Engineering

B.S., Electrical and Computer Engineering, June 2004

- *Magna cum Laude*, With Honors in Engineering
- Electrical specialization (emphasis on electromagnetics and digital computers)
- Minor in Computer and Information Systems (programming and algorithms track)

Awards

National Science Foundation

- GK-12 Fellowship, 2006
- Graduate Research Fellowship Honorable Mention, 2005

The Ohio State University

- Dean's Distinguished University Fellowship, 2004
- Electrical and Computer Engineering Bradshaw Scholarship, 2002–2004
- Electrical and Computer Engineering Shafstall Scholarship, 2001–2003
- University Scholarship, 1999–2003

Academic Experience

The Ohio State University, Columbus, Ohio USA

Graduate Student **June 2004 to present**

- Dean's Distinguished University Fellow (June 2004 to present)
  Includes current M.S. research and course work.
- National Science Foundation GK-12 Fellow (September 2006 to October 2007)
  Developed, implemented, and evaluated daily fourth grade science lessons for a local inner-city public school class.

Instructor **March 2002 to June 2004**

- Member of Fundamentals of Engineering for Honors instructional team.
- Special graduate teaching appointment as undergraduate.
- Lectured weekly laboratory on engineering fundamentals (ENG H191, H192, and H193).

- Trained in-class undergraduate teaching assistants in laboratory procedure.
- Graded weekly lab reports and provided laboratory exams.

Teaching Assistant **September 2000 to March 2002**

- Assisted Fundamentals of Engineering for Honors instructional team.
- Provided in-class support to first-year engineering students (ENG H191, H192, and H193).
- Graded daily assignments on programming and drafting.

Undergraduate Researcher **September 2000 to March 2002**

- Participated in the Europa Undergraduate Research Forum, a part of the Reusable Software Research Group.
- Worked to improve undergraduate education of component based software engineering topics.
- Researched needed changes to RESOLVE/C++ implementation for ANSI/C++ compliance.

Grader **September 2001 to December 2001**

- Graded daily electromagnetics assignments (ECE 311).

Undergraduate Student **September 1999 to June 2004**

Publications

Pavlic, T.P., and K.M. Passino. Submitted. Foraging Theory for Mobile Agent Speed Choice. Engineering Applications of Artificial Intelligence.

Books in Preparation

Pavlic, T.P., B.W. Andrews, K.M. Passino, and T.A. Waite. Foraging Theory for Engineering.

Conference Publications

Freuler, R.J., M.J. Hoffmann, T.P. Pavlic, J.M. Beams, J.P. Radigan, P.K. Dutta, J.T. Demel, and E.D. Justen. 2003. Experiences with a Comprehensive Freshman Hands-On Course – Designing, Building, and Testing Small Autonomous Robots. Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition.

Professional Experience

National Instruments, Austin, Texas USA

Hardware R&D Intern for Multifunction DAQ **June 2003 to September 2003**

- Designed final verification testing fixture for use with STC2 MIO products.
- Designed and executed study of the effect of varying burn-in time on long-term drift of common industry voltage references.

Hardware R&D Intern for Multifunction DAQ **June 2002 to September 2002**

- Designed and performed validation tests on new 16-bit 800 kHz NI-6120 SMIO DAQ board.
- Designed high quality filter/amplifier source for use with NI-5411 arbitrary function generator.

IBM Network Storage, Research Triangle Park, North Carolina USA

Core Systems Software Developer for FlexNAS **June 2001 to September 2001**

- Designed and implemented high-availability, redundant internode communications subsystem.
- Participated in software development of various vital box services.

CallTech Communications, Columbus, Ohio USA

Information Technology Systems Engineer **June 1997 to May 2001**

- Responsible for the acquisition, setup, maintenance, and administration of all Internet hardware and software supporting NetWalk Internet service and web presence provider.
- Designed and implemented state of the art open source high-availability load balancing system supporting thousands of virtual servers.
- Developed software call center support software for clients such as CompuServe, AOL, and Priceline.

MegaLinx Communications, Dublin, Ohio USA

Web Developer and Support Representative **June 1995 to May 1997**

- Produced web content for commercial clients.
- Assisted in administration of UltraSPARC, x86, 68020, 68030, and PowerPC systems running Sun Solaris, Linux, Microsoft DOS, Microsoft Windows NT, and Apple Macintosh operating systems.
- Developed multi-platform open source file sharing solution.
- Provided technical support for Internet and web presence customers.

Service

Director of Computers, Engineers' Council, The Ohio State University, 2002

OSU FIRST Robotics Team, The Ohio State University, 2000–2004

- Introduced middle school and high school students to science and technology by participating with them in national robotics competitions.
- Led 2002 team to regional silver medal *Engineering Inspiration Award*.
- *Lead Team Mentor*, 2002–2004
- *Component Design Team Lead Mentor*, 2001–2002

Linux Virtual Server Project, 1999–2000

- Early member of the team that formed the open source project that is now an important load balancing solution for the Linux software platform.

Greater Columbus Free-Net, 1995–1997

- Provided technical support services.

CompuTeen Bulletin Board System, 1993–1995

- Administrated dial-up bulletin board system.
- Founded and administrated TeenLiNK, an international electronic mail network that spread through the United States, Canada, and Australia and delivered mail over a series of electronic dial-up drop offs.

Technical Skills

Extensive hardware and software experience in networking and information technology

MATLAB experience: linear algebra, Fourier transforms, nonlinear numerical methods, polynomials, statistics, visualization

MATLAB toolboxes: communications, control system, filter design, genetic algorithm and direct search, signal processing, system identification

Instrumentation and Control: dSPACE hardware and software, Simulink, LabVIEW and other National Instruments control and data acquisition hardware and software

Programming: C, C++, Pascal, Perl, PHP, Lisp, UNIX shell scripting, SQL, RCS, CVS, SVN, and others

Applications: TEX, LATEX, BIBTEX, Microsoft Office, and other common productivity packages for Windows, OS X, and Linux platforms

Operating Systems: Microsoft Windows XP/2000, Apple OS X, Linux, BSD, IRIX, AIX, Solaris, and other UNIX variants

MATHEMATICAL EXPERTISE

Linear and Nonlinear Systems Theory

Probability, Random Variables, and Stochastic Processes

Dynamic Optimization

Game Theory