DR. NICHOLAS C. PROPES, Ph.D.

Global Technology Experts   work phone: (770) 803-3001
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Suite 1160   email: npropes@globaltechinc.com
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EDUCATION
- Ph.D., Electrical Engineering-Intelligent Systems, Georgia Institute of Technology, Atlanta, GA, 2004
- M.S., Electrical Engineering-Control Systems, University of Alabama, Tuscaloosa, AL, 1997
- B.S.E., Electrical Engineering, Tulane University, New Orleans, LA, 1995

PROFESSIONAL EXPERIENCE
- Global Technology Experts, Atlanta, GA   2010 - Present
  Principal Engineer – Engineering Department
  Responsibilities: Software Development, Systems Engineering, Proposal Writing/Presenting, Diagnostics/Prognostics for Manned/Unmanned Ground Vehicles and Valves, Commercialization Activities, and Integration with COTS Hardware
- BAE Systems, Inc., Johnson City, New York   2008 – 2010
  Principal Systems Engineer – Platform Solutions
  Responsibilities: Prognostics Lead for Joint Light Tactical Vehicle, Test Development for Bradley, Proposals, Neural Network Course Instructor, Software Development
- Global Technology Connection, Inc., Atlanta, Georgia   2004 –2008
  Principal Engineer – Engineering Department
  Responsibilities: Proposal Writing/Presenting, Diagnostic/Prognostic Software Development, Testing, Commercialization Activities

AREAS OF EXPERTISE
- Batteries, Motors & Generators
- Slips, Trips, Falls
- Machinery & Equipment Failures
- Repair / Preventive Maintenance
- Electrical Failures
- Vehicle Health Monitoring
- Accident Reconstruction
- Product Failure Analysis

MEMBERSHIP AND AWARDS
- 2011-2013 PHM Society Doctoral Consortium Chair, 2009 PHM Society Hardware Demos Co-Chair
- 2013 Principal Investigator: Fusion Enhanced Vehicle Level Diagnostic System (NASA SBIR Phase I)
- 2011-2014 Principal Investigator: Li-ion Cell Performance Modeling (MDA STTR Phase I/II)
- 2011 Principal Investigator: Valve Health Monitoring System (AIR FORCE SBIR Phase I)
- 2011 Principal Investigator: A Hierarchical Fault Tolerant Control System for PackBots (ARMY Phase I, Phase II, CPP)
- 2009 BAE Systems Engineering Peer Recognition Award
- 2007 Principal Investigator: A Hierarchical Data Fusion Architecture for Missile Detection and Identification (MDA SBIR Phase I)
- 2006 Principal Investigator: A Hierarchical Intelligent Data Fusion Architecture for System Health Management (NASA SBIR Phase I)
- 2005 Principal Investigator: Prognostic Enhanced Diagnostic System (NASA Glenn Garrett Commercialization Initiative)
- 1997 Outstanding Teaching by a Masters Student, University of Alabama.
- 1995 C.W. Ricker Award, Outstanding Senior in Electrical Engineering, Tulane University.
- 1993 D.H. Vliet Award, Outstanding Freshman in Engineering, Tulane University.
- IEEE Member

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COMPUTER SOFTWARE SKILLS
- Matlab/Simulink
- Linux C Programming (Using Ubuntu)
- National Instruments LabView 2012
- Adobe Premiere, Dreamweaver, After Effects, Photoshop / Autodesk Maya
- Past programming experience in: Python, Java, Visual Studio .NET 2010/2012

SELECTED PUBLICATIONS
- N. Propes, A. Thakker, B. Jeffries, et al, "**Diagnostics and Prognostics of Hydraulically Actuated Butterfly Valves**," MARCON Conference 2013, Knoxville, TN, 2013.
- B. Jeffries, N. Propes, A. Thakker, et al, "**Monitoring and Prognostics of Hydraulically Operated Butterfly Valves**," 8th International Conference on Nuclear Plant Instrumentation, Control, and Human-Machine Interface Technologies (NPIC & HMIT), San Diego, CA, 2012.
- **A Hierarchical Fault Tolerant Control System for UGVs Experiencing Mobility Failures**, P. Frederick, S. Lee, J. Ajitsaria, and N. Propes, IASTED Robotics and Applications Conference, Cambridge, MA, 2010.
- **Assessing Health Degradation in Aircraft Generators**, F. Rufus and N. Propes, RMC Newsletter Article, Knoxville, TN, 2010.
- **Optimization Tutorial 2: An Introduction to Particle Swarm Optimization,** N. Propes et al, BAE Systems Fellows Publication, Johnson City, NY, 2010.
- **A Health Monitoring Methodology for On- and Off-board Vehicle Systems using Data-driven and Model-based Techniques**, D. Finigan, F. DiRosa, N.Propes, F. Heimes, and C. Thompson, NDIA-GVSETS, Detroit, MI, 2009.
- **Optimization Tutorial 1: An Introduction to Genetic Algorithms,** N. Propes et al, BAE Systems Fellows Publication, Johnson City, NY, 2009.
- **pyFramework: A Generic Software Framework for Product Development using Python**, N. Propes et al, BAE Systems Fellows Publication, Johnson City, NY, 2009.
- **A Health Management Solution for Hybrid Electric Vehicle Transit Fleets,** R. A. Hess, F. O. Heimes, and N. Propes, 2008 PHM Conference, Denver, CO, 2008.
- **Diagnostic and Prognostics Health Monitoring of Chillers on-board Naval Vessels,** N. Propes, A. Thakker, G. Vachtsevanos, T. Galie, and M. Franks, ASNE Joint Sea Basing Conference, Arlington, VA, 2005.
- **A Fuzzy Petri Net Based Mode Identification Algorithm for Fault Diagnosis of Complex Systems,** N. Propes and G. Vachtsevanos, AeroSense, Orlando, Florida, April 21-25, 2003.
- **A Real-Time Architecture for Prognostic Enhancements to Diagnostic Systems,** N. Propes, S. Lee, G. Zhang, I. Barlas, Y. Zhao, G. Vachtsevanos, A. Thakker, and T. Galie, MARCON, Knoxville, Tennessee, May 6-8, 2002.
- **An Integrated Approach to Machine Fault Diagnosis,** P. Wang, N. Propes, N. Khiripet, Y. Li, and G. Vachtsevanos, IEEE Annual Textile Fiber and Film Industry Technical Conference, Atlanta, May 4-6, 1999.