Walamitien Hervé Oyenan

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INTERESTS

RESEARCH INTERESTS

<u>Areas</u>: Software Engineering, Intelligent Systems, Cooperative Robotics, Wireless Sensor Networks.

My current research centers primarily in the areas of **Software Engineering and Multiagent Systems**. My general objective is to develop **adaptive intelligent systems** that can perform optimally with minimum human intervention. In particular, I am focusing on creating models and techniques for the systematic design and development of adaptive and autonomous multiagent systems in domains such as **Cooperative Robotics** and **Wireless Sensor Networks**.

TEACHING INTERESTS

<u>Areas</u>: Software Engineering, Artificial Intelligence, Multiagent Systems, Distributed Systems.

EDUCATION

- **Ph.D. in Computer Science,**   May 2010
  Kansas State University, Manhattan, Kansas
  <u>Thesis Title</u>: "An Algebraic Framework for Compositional Design of Autonomous, Adaptive Multiagent Systems"
  <u>Advisor</u>: Scott DeLoach

- **Master of Software Engineering,**   December 2003
  Kansas State University, Manhattan, Kansas   *GPA: 4.0 / 4.0*

- **B.S. in Computer Science,**   June 2001
  University of Lille, France   *GPA: 3.7 / 4.0*

PROFESSIONAL EXPERIENCE

RESEARCH EXPERIENCE

- **Sr. Research Engineer**,   Motorola Solutions   August 2010 – present
  Applied Research Center
    o Investigate the use of Web 2.0 technologies such as HTML5, JavaScript, and CSS3 for rapid development of robust mobile enterprise applications.
    o Research on software architectures and programming models for a mobile enterprise applications platform.

- **Research Assistant**,   Kansas State University   January 2005 – May 2010
  Multiagent and Cooperative Robotics Lab (Dr. Scott DeLoach)

- o Conducted research in applying Software Engineering principles for the compositional design of autonomous and adaptive Multiagent Systems.
  - o Designed an Adaptive Information System for autonomously gathering tactical information from sensors on a simulated battlefield.

- **Research Assistant**,   Kansas State University   January 2006 – May 2009
  Pervasive Sensor Networks Lab (Dr. Gurdip Singh)
  - o Conducted research for providing an agent-based multi-layer approach for designing adaptive Wireless Sensor Networks applications.
  - o Implemented prototypes for various detection-based applications (vehicle, intrusion and radiation detection) using heterogeneous wireless sensors in an ad-hoc network.

- **Research Assistant**,   Kansas State University   May 2003 – January 2004
  Parallel and Distributed Computation (Dr. Virgil Wallentine)
  - o Implemented a load-balancing algorithm to efficiently distribute the parallel calculation of pipeline computer models among several machines.
  - o Designed and developed a GUI for a Pipeline Simulation Software to create pipeline components and visualize their data during simulation.

- **Research Assistant**,   Kansas State University   January 2003 – May 2003
  Operating Systems (Dr. Masaaki Mizuno)
  - o Evaluated and redesigned a Java operating system (LeJos) on Lego Mindstorms robots.
  - o Studied the impacts of concurrent threads in a multi-thread architecture.
  - o Designed an implementation pattern for time-triggered embedded systems.

TEACHING EXPERIENCE

- **Principles of College Teaching** (course taken), Kansas State University   Fall 2009
  - o Attended a graduate-level course about teaching and learning at the university level.
  - o Course focused on learning theory, educational objectives, methods and techniques, college students, and evaluation in the classroom.

- **Teaching Assistant**,   Kansas State University   Spring 2007
  Implementation of Sensor Network Applications (CIS890)
  - o Designed and supervised multiple course projects (for graduate students) which integrated robots and wireless sensor networks.
  - o Held tutorial sessions to familiarize students with sensor network programming.

WORK EXPERIENCE

- **ARTC Research Intern**   *Motorola*, Schaumburg, IL   June 2009 – August 2009
- **Web Developer**   *FINRA*, Washington, DC   July 2004 – January 2005
- **Quality Assurance Tester**   *Welocalize*, Frederick, MD   March 2004 – January 2005
- **Web Developer Intern**   *AllSystem*, Paris, France   June 2002 – August 2002
- **Java Developer Intern**   *LIFL*, Lille, France   January 2001 – June 2001

PUBLICATIONS

REFEREED JOURNALS

- **Towards a Systematic Approach for Designing Autonomic Systems**
  Walamitien H. Oyenan and Scott A. DeLoach.
  Web Intelligence and Agent Systems: An International Journal. Volume 8, no. 1, January 2010.

- **A Capabilities Based Model for Artificial Organizations**
  Scott A. DeLoach, *Walamitien H. Oyenan* and Eric T. Matson.
  Journal of Autonomous Agents and Multiagent Systems. Volume 16, no. 1, February 2008.

REFEREED CONFERENCES AND WORKSHOPS

- **An Organizational Design for Adaptive Sensor Networks**
  Walamitien H. Oyenan, Scott A. DeLoach and Gurdip Singh.
  IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT 2010). September 2010. Toronto, Canada.

- **A Service-Oriented Approach for Integrating Multiagent System Designs**
  Walamitien H. Oyenan, Scott A. DeLoach and Gurdip Singh.
  The 8th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009). May 2009. Budapest, Hungary.

- **Exploiting Reusable Organizations to Reduce Complexity in Multiagent System Design**
  Walamitien H. Oyenan, Scott A. DeLoach and Gurdip Singh.
  The 9th International Workshop on Agent Oriented Software Engineering (AOSE 2009). May 2009. Budapest, Hungary.

- **Design and Evaluation of a Multiagent Autonomic Information System**
  Walamitien H. Oyenan and Scott A. DeLoach.
  IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT 2007). November 2007. Fremont, California.

- **O-MaSE: A Customizable Approach to Developing Multiagent Development Processes**
  Juan C. Garcia-Ojeda, Scott A. DeLoach, Robby, *Walamitien H. Oyenan* and Jorge Valenzuela.
  The 8th International Workshop on Agent Oriented Software Engineering (AOSE 2007). May 2007. Honolulu, Hawaii.

TECHNICAL REPORTS

- **Designing Adaptive Sensor Networks using an Organization-based Approach**
  Scott A. DeLoach and *Walamitien H. Oyenan*.
  Multiagent and Cooperative Robotics Laboratory Technical Report No. MACR-TR-2010-04. Kansas State University. June 2010.

- **An Organizational Model and Dynamic Goal Model for Autonomous, Adaptive Systems**
  Scott A. DeLoach and *Walamitien H. Oyenan*.
  Multiagent and Cooperative Robotics Laboratory Technical Report No. MACR-TR-2006-01. Kansas State University. March 2006.

- **Graphical User Interface and Job Distribution Optimizer for a Virtual Pipeline Simulation Testbed**
  Walamitien H. Oyenan.
  Master of Software Engineering Report. Kansas State University. December 2003.

SERVICES & PROFESSIONAL AFFILIATIONS

- **Member**, Association for Computing Machinery (ACM)
- **Student Representative**, Dean of Engineering Interview process, March 2007
- **Panelist**, Graduate Student Panel at STEM (Science, Technology, Engineering, and Mathematics) Graduate Fair, November 2006
- **Judge**, High School Programming Contest, October 2006