

TAEKYU KIM

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OBJECTIVE

Seeking the full time opportunity of Software Engineer in System Design, ontology/data engineering, context awareness, human computer interaction (HCI) and ubiquitous computing

EDUCATION

The University of Arizona, Tucson, Arizona, USA

**Ph.D. - Computer Engineering, August 2006 to May 2008(expected)
in Electrical and Computer Engineering Department**

Dissertation Title : Ontology/Data Engineering Based Simulation for Network Intrusion Detection Systems

Minor 1: System and Industrial Engineering

Minor 2: Computer Architecture

Research Advisor: Professor Bernard P. Zeigler

GPA : 3.87/4.0

The University of Arizona, Tucson, Arizona, USA

**M.S. - Electrical and Computer Engineering, August 2003 to May 2006
in Electrical and Computer Engineering Department**

Thesis title : DEVS-NS2 Environment; An Integrated Tool for Efficient Network Modeling and Simulation

Research Advisor: Professor Bernard P. Zeigler

GPA : 3.85/4.0

Chung-Ang University, Seoul, South Korea (R.O.K.)

B.E. - Computer Science and Engineering, March 1994 to February 2000

Thesis title: The security solution in the E-commerce.

RESEARCH INTERESTS

Data Engineering, Ontology Engineering, Discrete Event Modeling and Simulation, Wireless Sensor Networks, Ubiquitous Networking, Network Security Systems, Telematics, Grid/Distributed Computing, and Parallel processing

PUBLICATIONS

JOURNAL, CONFERENCE AND WORKSHOP ARTICLES

J.2. Taekyu Kim, Young-Shin Han, and Bernard P. Zeigler, “**Automated Context Awareness Simulation Using Ontology/Data Engineering Methodology for Network Behavior Analyses**”, prepare to SIMULATION: Transactions of the Society of Modeling and Simulation International.

J.1. Taekyu Kim, Moon Ho Hwang, Doohwan Kim, “**DEVS/NS-2 ENVIRONMENT; AN INTEGRATED TOOL FOR EFFICIENT NETWORKS MODELING AND SIMULATION,**” submitted to Journal of Defense Modeling and Simulation (JDMS)

C.3. Taekyu Kim, Young-Shin Han, Saehoon Cheon, and Bernard P. Zeigler, “**Network Traffic Analysis System Based on Data Engineering Methodology Using System Entity Structure,**” 2007 International Conference on Convergence Information Technology (ICCIT'07), IEEE Computer Society, Gyeongju, Republic of Korea, November 07

C.2. Ho Jun Lee, Taekyu Kim, Bernard P. Zeigler, Dale Fulton, and Doohwan Kim, “**Improving Testing Capability of Interoperability for Link-11 by building a Gateway for a TCP/IP Network,**” 2007 Fall Simulation Interoperability Workshop (2007 Fall SIW), Orlando, Florida, September 07

C.1. Taekyu Kim, Moon Ho Hwang, Doohwan Kim, and Bernard P. Zeigler, “**DEVS/NS-2 Environment,**” 2007 DEVS Integrative M&S Symposium (DEVS07) in Spring Simulation Multiconference (SpringSim’07), Virginia, March 07

AWARDS

Graduate Tuition Scholarship by the University of Arizona, 2003 – 2008.

PROFESSIONAL EXPERIENCE

Internship at RTSync Corp. Phoenix, AZ. USA (August 2006 ~ May 2007)

I.1. The GenetSCOPE (Generic Network Model for Systems Capable of Planned Expansion) is an object-oriented discrete-event system modeling and simulation (M&S) environment to support simulation and analysis of voice and data communication scenarios for High Frequency Global Communication Systems (HFGCS), August 2006 to May 2007

I.2. LINK11 Gateway for conventional LINK11 audio signal based on FFT: a real time duplex(sending and receiving) gateway for converting between analog signal and digital bit streams, August 2006 to May 2007

Research Assistant at ACIMS Lab in ECE Dept. The University of Arizona

R.1. Modeling and Simulation of TENA SSEGW behaviors in the OPNET/NETWARS Modeler Environment, Interoperability Test and Evaluation Capability (InterTEC), December 2005 to August 2006

R.2. Database design and development with Microsoft Access and ODBC, and network communication between Configuration Items (CI) through TENA_AMO middleware under the Microsoft Visual C++ environment in the Test Configuration Management (TCM) project of the Joint Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (JC⁴ISR) Interoperability Test and Evaluation Capability (InterTEC), May 2005 to August 2005.

Private 1st Class, the Second corps headquarters, Kangwon-Do, Korea, 1996 to 1998.

COURSES EXPERIENCE

Advanced Computer Architecture : Scalable Interconnection Network for Parallel Computer

Parallel Processing : Parallel Processing for the weather forecasting system. Implemented by C with MPI library.

Software Engineering Concept : In-car navigation aid that helps a driver navigating around in his environment. Implemented by Java.

Object-Oriented Simulation/Discrete Event Models : Battle combat simulation model that helps a military commander to predict the result of combat. Implemented and simulated by DEVS Java.

Fundamentals of Computer Networks : VoIP survey project.

Artificial Intelligence : Knowledge based binary tree search algorithm

Distributed Simulation : Multi-User Demolition Derby Game. Implemented by Java and RMI.

Distributed Simulation : Parallel Shortest Path Search Algorithms of Dijkstra and Floyd to compare performance by C with MPI library.

Integrated Telecommunication Networks : Customize the protocol between sensor node and gateway node in the wireless sensor network.

Distributed Computing System : Distributed Searching Algorithm of Depth First Search and Breadth First Search for 8-Puzzle problem by C with MPI library

Continuous System Modeling : Hybrid Simulation for Continuous and Discrete Event Behavior Models. Implemented by DEVS C++

Optimization Methods : Optimal Solution using Linear Programming, Integer Programming, Dynamic Programming, and Heuristic Method

Computational Intelligence : Neural Network project – Determining Severe Acute Respiratory Syndrome (SARS) patients. Implemented by C++
Canonical Genetic Algorithm project – clustering the data. Implemented by C++
Cyber Security : Secure Routing in Wireless Sensor Networks, Anomaly based intrusion detection system(survey and propose a design)

TECHNICAL SKILLS Member Platforms: UNIX/Linux, MS-Windows, MacOS X
Languages: C/C++, Java, Assembly Language, Smalltalk, Pascal, LISP, COBOL
Network Middleware : TENA, RMI, Socket, MPI, CORBA
Network Research Tool: OPNET, NS-2
Modeling & Simulation : Discrete Event Simulation Framework (DEVS)
Data Engineering & Modeling : Rational Rose(UML), MS Visio
Development Tool : MS Visual Studio, JBuilder, Eclipse
DBMS: Oracle, Microsoft SQL

EXTRACURRICULAR ACTIVITIES President of Korean Student Association of ECE Dept. in the University of Arizona
Member of Computer Programming Association, Department of Computer Science and Engineering, Chung-Ang University
Member of Computer Music Composition Association, Chung-Ang University

REFERENCES Available upon request