Ren-Song Ko — *Curriculum Vitae*

Personal

808 Cherry Lane, Apt# C
East Lansing, MI 48823
Phone: (517) 355-8130(H), (517) 980-5907(M)
Email: korenson@cse.msu.edu
URL: http://www.cse.msu.edu/~korenson

Education

- **Ph.D. in Computer Science and Engineering**, May 2003
  Michigan State University, East Lansing, MI
- **M.S. in Computer Science and Engineering**, May 1998
  Michigan State University, East Lansing, MI
- **M.S. in Electrical Engineering**, June 1992
  National Taiwan University, Taipei, Taiwan
- **B.S. in Electrical Engineering**, June 1990
  National Taiwan University, Taipei, Taiwan

Research

General research interests include real-time and embedded systems, distributed computing systems, pervasive and mobile computing, and wired and wireless networking.

Dissertation

Title: "`ASAP` *for Developing Adaptive Software within Dynamic Heterogeneous Environments*"
Advisor: Matt W. Mutka

- Design and implement a Java adaptive software framework, `ASAP`, which helps people develop and deploy self-adaptive computer systems that may diagnose, overcome, and adapt to adverse and rapidly changing computing environments.
- `ASAP` has been applied to several domains with different purposes and constraints, including soft real-time and distributed applications, and adaptive robotic control systems.
- The implementation has been tested successfully on Linux (PC, iPAQ, and Nomadic XR4000), but expected to work under different platforms.

Publications

1. Ren-Song Ko and Matt W. Mutka, "*Use `ASAP` to Develop Flexible and Efficient Distributed Self-Adaptive Systems*," submitted to the 2003 International Conference on Parallel Processing (ICPP-2003), October 2003.
2. Ren-Song Ko and Matt W. Mutka, "*A Component-Based Approach for Adaptive Soft Real-Time Java within Heterogeneous Environments.*" to appear in the special issue of Parallel and Distributed Computing Practices.

3. Ren-Song Ko and Matt W. Mutka, "*Adaptive Soft Real-Time Java within Heterogeneous Environments*," Proceedings of Tenth International Workshop on Parallel and Distributed Real-Time Systems, April 2002.
4. Ren-Song Ko and Matt W. Mutka, "`FRAME` *for Achieving Performance Portability within Heterogeneous Environments*," Proceedings of the 9th IEEE Conference on Engineering Computer Based Systems, April 2002.

Presentations

1. "*Adaptive Software Architecture Project (*`ASAP`*)*," Michigan State University, East Lansing, September, 2002.
2. "*Adaptive Soft Real-Time Java within Heterogeneous Environments*," Tenth International Workshop on Parallel and Distributed Real-Time Systems, April, 2002.

Awards

- Fellow Scholarship, Department of CSE, Michigan State University, 1999.
- One of the best papers in WPDRTS 2002 and invited to participate in the special issue of Parallel and Distributed Computing Practices, 2002.

Experience

Teaching Assistant 1999–2002
Department of Computer Science and Engineering

- CSE231: Introduction to Programming I
- CSE232: Introduction to Programming II
- CSE410: Operation System
- CSE420: Computer Architecture
- CSE830: Design and Theory of Algorithms
- CSE835: Algorithmic Graph Theory

Duties included conducting lab sessions, answering questions and grading homeworks.

Research Assistant 1997–1999, 2001–Present
Department of Civil and Environmental Engineering

Developed GUI and improved the functionality for the pavement design software, `MFPDS`, on Windows sponsored by Michigan Department of Transportation. The GUI is developed solely in C++ and the core algorithm is developed collaboratively in Fortran with Visual Fortran.

Projects

1. 1999–present Design and implementation of the adaptive soft-

ware architecture project(`ASAP`), for developing self-adaptive software under dynamic heterogeneous environments.

2. 2001–present Improvement of the dynamic version of the pavement design software, `MFPDS`, on Windows.
3. 1997–1999 Implementation of the pavement design software, `MFPDS`, on Windows.

Professional Activities

· Member of IEEE, IEEE Computer Society, and ACM.

References

Matt W. Mutka
Associate Professor
Department of Computer Science and Engineering
3115 Engineering Building
Michigan State University
East Lansing, MI 48824-1226
Phone: (517) 353-9731
FAX: (517) 432-1061
Email: mutka@cse.msu.edu

Abdol-Hossein Esfahanian
Associate Professor
Department of Computer Science and Engineering
3115 Engineering Building
Michigan State University
East Lansing, MI 48824-1226
Phone: (517) 353-4389
FAX: (517) 432-1061
Email: esfahanian@cse.msu.edu

Ronald S. Harichandran
Professor, Chairperson
Department of Civil and Environmental Engineering
3546C Engineering Building
Michigan State University
East Lansing, MI 48824-1226
Phone: (517) 355-5107
FAX: (517) 432-1827
Email: harichan@egr.msu.edu

Lionel M. Ni
Professor, Head
Department of Computer Science
Hong Kong University of Science and Technology
Clear Water Bay, Kowloon
Hong Kong
Phone: (852) 2358-7009
FAX: (852) 2358-2679
Email: ni@cse.msu.edu, ni@cs.ust.hk

Mark H. McCullen
Academic Specialist
Department of Computer Science and Engineering
3115 Engineering Building
Michigan State University
East Lansing, MI 48824-1226
Phone: (517) 355-2354
FAX: (517) 432-1061
Email: mccullen@cse.msu.edu