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CURRENT POSITION

- AIST Research Staff
High Performance Computing Team
Computational Biology Research Center (CBRC)
National Institute of Advanced Industrial Science and Technology (AIST)

EDUCATION

- Ph.D. in Environmental Studies (Mechanical Design), The University of Tokyo, April 2001 – March 2004, Tokyo, Japan
- *Thesis: Integrated Support System for Decision-Making in Design Optimization*
- M.S. in Engineering (Mechanical Design), Sungkyunkwan University, September 1997 – August 1999, Seoul, Korea
- B.S. in Engineering (Mechanical Design), Sungkyunkwan University, March 1988 – August 1994, Seoul, Korea

RESEARCH EXPERIENCE

- AIST Research Staff, High Performance Computing Team, CBRC, AIST
April 2004 – Present, Tokyo, Japan
- *3R Fragments Assembly and Optimization for Protein Structure Prediction*
- Foreign Researcher, Graduate School of Engineering, The University of Tokyo
October 1999 – December 2000, Tokyo, Japan
- *Development of evolutionary algorithms, data mining and clustering methods for an advanced general-purpose large-scale computational mechanics system*

WORK EXPERIENCE

- Associate Engineer, Piping Team, Samsung Engineering Co. Ltd.
August 1994–August 1997, Seoul, Korea
- *Stress Analysis of Piping Systems in Plants*
- Private First Class, Military Service, Korea Army
February 1990 – June 1992, Kangwon-do, Korea

RESEARCH INTEREST

- Multi-objective and Multi-criterion Optimization
- Decision-Making in Mechanical Design
- Data Clustering and Pattern Recognition using Soft Computing
- Evolutionary Strategy and Immune Algorithm for Optimization
- Visualization of High-dimensional Data
- Parallel and Distributed Computing
- Computational Protein Structure Prediction Using Short Fragments

SKILLS

- Languages: Native Korean, Fluent Japanese and English
- Computer Skills: C/C++, OpenGL, MPI, Matlab, HTML, Linux, Unix
- Expert knowledge of the Unix operating system and related applications.
- Advanced knowledge of the professional typesetting package \LaTeX .

PUBLICATIONS

1. Min Joong Jeong, Shinobu Yoshimura, and Takashi Kobayashi, “Visualization and Clustering Based Interpretation for Multi-objective Optimization of Heat Pipes of Artificial Satellite”, Transactions of the JSME, Part C, Vol.71, No.710, 2005, in press.
2. Min Joong Jeong and Joon-Seong Lee, “Shape Design of Passages of Turbin Blade Using Design Opimization System”, Transactions of the KSME, Part A, Vol.29, No.7, pp.1013-1021, 2005.
3. Min Joong Jeong, Brian H. Dennis, and Shinobu Yoshimura, “Multidimensional Clustering Interpretation and Its Application to Optimization of Coolant Passage of a Turbine Blade”, Journal of Mechanical Design, Transactions of the ASME, Vol.127, pp.215-221, 2005.
4. Min Joong Jeong, Shinobu Yoshimura, and Takashi Kobayashi, “Extraction of Design Characteristics of Multiobjective Optimization”, Lecture Notes in Computer Science, Vol.3410, pp.561-575, 2005.

5. Daisuke Ishihara, Min Joong Jeong, Shinobu Yoshimura, and Genki Yagawa, "Design Window Search Using Continuous Evolutionary Algorithm and Clustering - Its Application to Shape Design of Microelectrostatic Actuator", *Computers and Structures*, Vol.80, No.31, pp.2469-2481, 2002.
6. Min Joong Jeong, Young Jin Kim, Daisuke Ishihara, Shinobu Yoshimura, and Genki Yagawa, "Shape Design of Micro Electrostatic Actuator using Multidimensional Design Windows", *Transactions of the KSME, Part A*, Vol.25, No.11, pp.1796-1801, 2001.
7. Young Jin Kim, J.C. Kim, Min Joong Jeong, J.B. Choi, and C.R. Pyo, "Development of Internet based Virtual Reality Environment and Web Database for the Integrity Evaluation of the Nuclear Power Plant", *Transactions of the Korean Society of CAD/CAM*, Vol.6, No.2, pp.140-146, 2001.
8. Daisuke Ishihara, Min Joong Jeong, Shinobu Yoshimura, Genki Yagawa, and Young Jin Kim, "Automated Search for Multidimensional Design Windows Using Continuous Evolutionary Algorithms and Improved K-means Clustering", *Transactions of the JSME, Part C*, Vol.67, No.654, pp 460 468, 2001.
9. Min Joong Jeong, Young Jin Kim, K.J. Kang, H.G. Beom, and C.R. Pyo, "Stress Intensity Factor Analysis of Nozzle Considering Pressure and Heat Transfer on Crack Face", *Transactions of the KSME, Part A*, Vol.24, No.9, pp 2252-2258, 2000.

PATENTS

- Min Joong Jeong, "A New Fragment Assembly and Optimization for Protein Tertiary Structure Prediction", Japan Patent Application, AIST2005 003928, 2005.

PAPERS UNDER REVIEW

- Min Joong Jeong, Shinobu Yoshimura, and Takashi Kobayashi, "Design Optimization of Heat Pipe for Artificial Satellite", *Engineering Optimization*, 2005.

INTERNATIONAL CONFERENCE PAPERS (PEER REVIEWED)

- Min Joong Jeong, Shinobu Yoshimura, Takashi Kobayashi, and Takehide Nomura, "Multidimensional Solution Interpretation of Multiobjective Optimization of Artificial Satellite Heat Pipe Design", *The Third China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems*, pp.341-346, Kanazawa, Japan, 2004.
- Min Joong Jeong, Brian H. Dennis, and Shinobu Yoshimura, "Multidimensional Solution Clustering and Its Application to The Coolant Passage of A Turbine Blade", *Proceedings of 29th Design Automation Conference: ASME Design Engineering Technical Conferences*, Chicago, Illinois, USA, DETC2003/DAC-48764, 2003.

- Min Joong Jeong and Shinobu Yoshimura, “An Evolutionary Clustering Approach to Pareto Solutions in Multiobjective Optimization”, Proceedings of 28th Design Automation Conference: ASME Design Engineering Technical Conferences, Montreal, Canada, DETC2002/DAC-34048, 2002.

AWARDS

- Asia 100 Fellowship, Yoshida Scholarship Foundation, Japan, April 2001–March 2004