

CURRICULUM VITAE

Personal information

- Name: Kimmo Juhani Raivio
- Date and place of birth: March 8, 1964 Espoo, Finland
- Family status: married since 1993, three children (1997, 2003, 2006)
- Citizenship: Finnish
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Aalto University
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Skills

- Programming: matlab, csh, perl, SQL, C
- Experience from both unix/linux and windows environments
- Specialist on statistical machine learning and data mining in telecommunication and mobile work machine applications.
- Good presentation skills.

Education

- Laajasalo Upper Secondary School, Helsinki, Finland, student matriculation, 1983
- Helsinki University of Technology (HUT), Department of Technical Physics, Diploma Engineer (M.Sc.), 1990
Major studies in Computer and Information Science and minor in Industrial Management.
- Helsinki University of Technology, Department of Computer Science, Licentiate in Technology, 1993
- Helsinki University of Technology, Department of Computer Science, Doctor of Science in Technology (D.Sc.), 1999
Major studies in Computer and Information Science and minor in Systems and Operations Research

Other academic merits

- Docent of Learning and Statistical Methods in Telecommunication in Helsinki University of Technology, July 2006
- Candidate on professorship of Radio Communications Engineering especially radio link dimensioning, network planning and system optimization in HUT, 2007.
 - 1st ranked by one of the experts who gave statements on all candidates.

Languages

1. Finnish native
2. English fluent
3. Swedish adequate

Working history

- Senior researcher, Aalto University, School of Science and Technology, 2010-
- Teaching research scientist, Helsinki University of Technology, 2002-2009
- Project Researcher, Helsinki University of Technology, 1993-2001
- Laboratory Engineer, Helsinki University of Technology, 1991-1993
- Teaching and Research Assistant, Helsinki University of Technology, 1987-1990
- Summer student, Nokia Information Systems, Helsinki, 1986
- Military service, 1984-1985
- Summer student, Nokia Data, Stockholm, 1984
- Summer student, Nokia Electronics, Helsinki, 1983

Publications

- 3 letter and journal articles
- 2 edited books
- 24 conference articles
- 3 patents
- Full list of publications is available as a separate list.

Teaching

- Coordinator of Special Assignment in Computer Science at HUT 2007-2010
- Coordinator of topics given by Laboratory of Computer and Information Science in Candidate Thesis and Seminar of Computer Science at HUT 2007-2008
- Lecturer at HUT on course Principles of Neural Computing 2002-2007
- Lecturer at HUT on course Principles of Pattern Recognition 2003-2004, 2008
- Lecturer at HUT on postgraduate seminar on Data Mining in Telecommunications 2006
- Lecturer at HUT on postgraduate seminar on Time in Self-Organizing Maps 2002
- Lecturer on Finnish Virtual University course Data analysis methods in modeling autumn 2004, spring 2006, spring 2008, autumn 2009
- Lecturer at University of Vaasa on course Neural Networks spring 2005

Activities in academic community

- Opponent of Doctoral dissertation of Eero Walleenius at Jyväskylä University in 2005.
Title of thesis: Control and Management of Multi-Access Wireless Networks
- Reviewer of Doctoral thesis of Miika Rajala from Tampere University of Technology in 2009.
Title of thesis: Data-Based Modelling and Analysis of Coherent Networked Systems with Applications to Mobile Telecommunications Networks
- Reviewer of Doctoral thesis of Toni Huovinen from Tampere University of Technology in 2008.
Title of thesis: Independent Component Analysis in DS-CDMA Multiuser Detection and Interference Cancellation
- Reviewer of Doctoral thesis of Jani Puttonen from University of Jyväskylä in 2006.
Title of thesis: Mobility Management in Wireless Networks
- Reviewer of Doctoral thesis of Arto Kantsila from Tampere University of Technology in 2004. Title of thesis: Neural Network Algorithms for Equalization of Data Bursts
- Reviewer of Doctoral thesis of Timo Hämäläinen from University of Jyväskylä in 2002.
Title of thesis: Broadband Network Quality of Service and Pricing

- Reviewer of Licentiate thesis of Jarmo Siltanen from University of Jyväskylä in 2003. Title of thesis: Dynamic Resource Allocation for Guaranteeing Quality of Service
- Reviewer of following international journals
 - IEEE Transactions of Neural Networks,
 - IEEE Transactions of Fuzzy Sets and Systems,
 - Pattern Recognition (Elsevier)
 - International Journal of Communication Systems,
 - International Journal of Neural Systems
 - Journal of Communications and Networks
 - Neural Computation
 - Advances in Engineering Software
- Reviewer of several international conferences
- Instructor of Doctoral thesis of Pasi Lehtimäki in 2008. Title of thesis: Data Analysis Methods for Cellular Network Performance Optimization
- Instructor of two MSc thesis, one BSc thesis and several special assignments.
- Member of Pattern Recognition Society of Finland 1989-
- COST (European Cooperation in the Field of Scientific and Technical Research) ICT Domain expert 2008-
- HeCSE Program Committee 2009-
- Member of Program Committee of ISAST Conference on Advanced Science and Technology 2010 (ISAST 2010)

Personnel Training

- Pedagogical training
 - Eri-0.4001: O3 -course: I as a teacher (5cr) autumn 2009
- Practices in project management for project managers
 - Project lifecycle. Tasks and responsibilities of a project manager 2.9.2009
 - National funding: Tekes, Academy of Finland 3.9.2009
 - EU-7th framework projects 21.10.2009
 - Financial management of a project for project managers 9.12.2009

Activities in current position

- Ongoing
 - Member of Computer Science Tutkinto-ohjelmatoimikunta (TOT) 2008-
 - Editor of Biennial report 2008-2009 of Center of Excellence of Adaptive Informatics Research Centre
 - Member of steering group of Adaptive Informatics Research Centre.
- Former
 - Leader of www group of Department of Information and Computer Science 2008-2009.
 - Member of Aalto University Research Assessment Exercise 2008-2009 team of Department of Information and Computer Science
 - Member of System Administration steering group at Department of Information and Computer Science 2009.

Research activities

Neural networks and their applications in telecommunications

- Since spring 1989 have been involved in several projects, which are financed by Nokia and Tekes and concerned on applications of neural networks on telecommunications
- Project manager and senior researcher in four Tekes funded telecommunication related projects in the Laboratory of Computer and Information Science at Helsinki University of Technology, 2001-2006
 - Subcontract in Tekes project lead by Nokia 2001-2002
 - Knowledge Acquisition in Network Analysis (KANA) in Käyttäjätavallinen Data-analyysi (KÄD) 2002-2003
 - Diagnostics and Analysis of NETworked systems (DIANE) 2004
 - DIANE 2005, 2005-2006

Analysis, condition monitoring and prognostics of mobile work machines

- Responsible researcher in Tekes and FIMA (Forum for Intelligent Machines) funded project From Measurements Data to Information (Tolkku)

2009- . Tolkku is part of FIMECC (Finnish Metals and Engineering Competence Cluster) EFFIMA (Energy and Life Cycle Cost Efficient Machines) program.

Current research interests

- Utilization of data mining tools in analysis and condition monitoring of mobile work machines
- Multivariate time series segmentation
- Network planning and optimisation in 3GSM networks
- Autonomous computing with self-configuring networks