

Curriculum vitae: Jarmo Tapani Alander

Jarmo Tapani Alander was born 15th Dec 1954.

Education

B.Sc. degree (physics) 1978 at the University of Helsinki and further his M.Sc. degree (physics) 1983 also at the University of Helsinki. The topic of the M.Sc. thesis was computer aided optical design and it was given the best of the year M.Sc. thesis in physics award by the faculty. The M.Sc. degree consisted of physics (1), theoretical physics (cl), computer science (cl), mathematics (cl) and statistics (a). As a separate minor in computer science (1) 31. 12. 1984.

1985 M.Sc. Tech. degree (computer science) at Helsinki University of Technology. The topic of this M.Sc. thesis was computer aided design of sculptured surfaces. A licentiate of technology degree (computer science) he received in 1989 also at Helsinki University of Technology and in 1999 he further received a degree of licentiate of philosophy at University of Helsinki (physics). The topic of the licentiate of technology thesis was rule based robot control while the topic of the licentiate of philosophy thesis was lattice model based protein folding computations.

Dr. Tech degree 17. December 2001 from Helsinki University of Technology, Department of Computer Science and Engineering. The title of the thesis was “Automatic and evolutionary robot programming”. The referees were Prof. Heikki Koivo (TUT, currently HUT) and Dr. Tech. Ari Nissinen, the opponent was Prof. Kanji Ueda (U of Kobe, currently U of Tokyo).

Jarmo Alander’s programming skills include Algol, Simula, C/C++, Java, Prolog, LISP, FORTRAN, Basic, Visual Basic, VHDL, Matlab, PHP, and AWK on the following operating systems: UNIX/LINUX, MS-DOS, Windows and VMS, and several robot programming languages.

Language skills: Finnish (native), Swedish (written), German (reading slowly) and English (written and oral), in addition interested in Kanji (Japanese /Chinese writing system).

Career

From 1976 to Spring 1980 and from Fall 1981 to 1982 mainly as a **course assistant** of both physics and computer science at the University of Helsinki and Helsinki University of Technology, as a research assistant from 1982 to Spring 1983, and as an assistant in high energy physics Fall 1983 at University of Helsinki.

Working mainly as a robot software production **researcher** at Helsinki University of Technology from 1984 to 1991 and lead the robotics group of the Institute of Industrial Automaton. This group worked on robot software application with Finnish industry. The size of the group varied from 2 to 7 full time employees. From the beginning of 1992 to the end of March 1992 Jarmo Alander worked under prof. Eero Byckling in his logical reasoning project.

From the beginning of August 1992 to the end of June 1993 working as a **lecturer of computer science** at the Helsinki Institute of Technology.

From 1st July 1993 to 31st Aug 1993 he was working as a **researcher** at Helsinki University of Technology in a project called “The industrial applications of genetic algorithms”.

From the beginning of September 1993 to the end of November 1995 he worked as an acting **professor of production automation** at the University of Vaasa. From the beginning of December 1995 professor Jarmo Alander has had the chair

of production automation at the University of Vaasa (first to the end of July 1998 and then further to the end of July 2001, after which as an acting professor until the position was filled by him) and has given lectures on product development, sensing, robotics, mechatronics, signal processing, automation and control, digital electronics and soft computing, especially genetic algorithms. During the last few years Jarmo Alander has lead a group of 2 to 6 researchers working on genetic algorithms at University of Vaasa. From 1998-2001 he was the vice head of the Department of Information Technology and Production Economics and has been among other things responsible for the “muuntokoulutus”. From Fall 2004-2008 vice head of the Department of Technology (Tekniikan laitos) and then also vice head of the Department of Electrical Engineering and Automation.

From 1st February 2003 to 31st January 2008 **docent** of heuristic optimisation methods in automation, especially genetic algorithms at Helsinki University of Technology.

Docent of Computer Science (Genetic and evolutionary algorithms) University of Oulu 2003-.

Research

Jarmo Alander has a number of interdisciplinary conference papers dealing with software testing, computational geometry, automatic product model based robot programming, image processing and genetic algorithms. The current research interests include software testing, computational geometry, digital electronics simulation, genetic algorithms, signal and image processing, medical imaging, sensing, and computational physics of protein folding.

Supervisor and referee

Supervisor of the following doctoral thesis:

Jouni Lampinen 1999 University of Vaasa, Department of Computer Science and Industrial Management

Timo Mantere 2003 University of Vaasa, Department of Computer Science

A referee of associate professor in bioinformatics / Biozentrum of the University of Basel 2001, professor of computer science / Chydenius Institute / University of Jyväskylä 2001, full professor promotion / C. L. Karr / University of Atlanta, 2002, and professor of automation / Helsinki University of Technology.

Opponent of the following PhD thesis: Stefan Elfving, KTH, 2007.

A referee of the following PhD thesis: Sami Viitanen, Åbo Akademi, 1997, Mika Johnsson, University of Turku, 1999, Sam Sandqvist, Helsinki University of Technology, Theoretical Computer Science, 2002, Wei Lu, Helsinki University of Technology, Civil Engineering, 2002. Janne Haverinen, University of Oulu, Computer Science, 2003. lic. of philosophy thesis: Jorma Laurikkala, University of Kuopio, 1997, and a number of MSc. thesis.

From January 1995 to January 2001 Jarmo Alander was a member of the executive board of Finnish Artificial Intelligence Society. Jarmo Alander is one of the founder member of the Finnish Pattern Recognition Society, the Finnish Artificial Intelligence Society, the Finnish Unix Users Group, and the EvoNet Network of Excellence in Evolutionary Computation. From Spring 1997 to Fall 2000 he was the vice chairman of the Research Committee of EvoNet.

Jarmo Alander has participated the activities of many evolutionary computation conference programme committees (Parallel Problem Solving from Nature, Mendel,

IEEE-EC, DAAAM, IJCAI-99, Nordic GA Workshop, EvoCOP) and he has been the main organizer of several national and Nordic genetic algorithm workshops.

Family

Jarmo Alander is married and has three daughters.

Etc

Hobbies: entomology (environment monitoring, collecting especially butterflies, moths, beetles and wasps), gardening (free style), wood work (book shelves for own library), skiing (both traditional Nordic and gradient Alpine), (re)cycling, photography/nature, visual arts, etc.

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