

SEPPO HEIKKILÄ

“ M.Sc. in technology looking for research or development challenges in innovative space and automation projects requiring hardware and software expertise.“

PERSONAL INFORMATION

Name **HEIKKILÄ, SEPPO SAKARI**
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Nationality Finnish
Date of birth 08.10.1979

WORK EXPERIENCE

01.2003 – 08.2005, 09.2006 onwards
Automation Technology Laboratory in Aalto University, Espoo, Finland
Area: Robotics, mechatronics and control of industrial processes.
Position: Research Assistant (01.01.2003 – 31.03.2005), Researcher (01.04.2005 onwards)
Responsibilities: Current: **Ph.D. studies** at **Aalto** and European Space Agency (**ESA**) in the field of human-robot interaction and **course assistant** in the Erasmus Mundus SpaceMaster programme.
Previous: Development of research **robot** control software, HW design and implementation of microcontroller based I/O -card, development of indoor Personal **Navigation system** (Master's thesis), drive **control software** development for 8 wheel electrical vehicle, and working as a course assistant on Automation fundamentals course.

05.2002 – 08.2002
Nokia Networks, Espoo, Finland
Area: Mobile phones and network infrastructures.
Position: Trainee
Responsibilities: Work in a **3G protocol software** team in Nokia Networks. Programming with C, software design with UML-charts, and evaluation of real-time SQL-databases.

02.2001 – 04.2002
Laboratory of Space Technology in Helsinki University of Technology, Espoo, Finland
Area: Remote Sensing and Space Instrumentation Development
Position: Research Assistant
Responsibilities: Processing of **remote sensing** data (MODIS and ERS-SAR images) with Matlab.

EDUCATION AND TRAINING

06.2005 onwards (estimated graduation date 09.2011)
Organisation: **Aalto University**, Espoo, Finland
Subject: Degree programme in Automation and Systems Technology. All courses completed 07/2007.
Degree: Doctor of Technology (not graduated).

09.2005 – 09.2006
Organisation: **International Space University**, Illkirch-Graffenstaden, France.
Subject: Degree programme in space studies including technical, financial and legal aspects (average 80/100). Internship at SES Astra SA (Betzdorf, Luxembourg) with satellite receiver localisation.
Degree: Master of Science in Space Studies.

09.1999 – 03.2005
Organisation: **Helsinki University of Technology**, Espoo, Finland
Subject: Degree programme in Electrical Engineering (average 4.1/5). Major subject: Space Technology, 1.st minor subject Automation and Control Technology and 2.nd minor Software Systems.
Degree: Master of Science in Technology.

PERSONAL SKILLS AND COMPETENCES	
LANGUAGES	
Finnish	Mother tongue
English	Excellent (reading/writing) + Very Good (verbal)
Swedish	Good (reading/writing) + Satisfactory (verbal)
German, Spanish, French	Basics (one to three course of each)
COMPUTER LANGUAGES	
C/C++	Excellent; several database, control system and graphics software projects. (8 years).
Matlab/Octave	Very Good; data processing, Simulink modeling and neural computing projects (5 years).
Java	Very Good; mail-client, database and webpage projects. (4 years).
SQL	Very Good; web page database and client database projects (5 years).
Visual Basic	Good; several small scripts and data acquisition project (2 years).
Assembler	Satisfactory; operating system development and microcontroller programming (2 years).
Latex	Excellent; several publications, master's thesis, etc. (6 years).
HTML, php	Excellent, Very Good; webpage development (10 years).
Ada	Poor; free time practice with sample programs (1 month).
OPERATING SYSTEMS	
Linux	Very good; Especially with Debian/Ubuntu, Gentoo, and Redhat distributions (8 years).
Unix	Good; Experienced user (7 years).
Windows	Excellent; used since Windows 3.1 (13 years).
Buenos	Very good; developed a functional operating system during a project course (1 year).
SOFTWARES	
Office	Microsoft-office/Openoffice, Emacs, Photoshop, Gimp, Dia, and Inkspace.
Space and automation	STK, LinkBudget, AVR Studio, Eagle Layout editor, dSpace TargetLink and Controldesk.
Misc	Microsoft Project, Matlab, Octave, Mathematica, Blender and Solidworks.
OTHER TECHNICAL SKILLS	<ul style="list-style-type: none"> - Experience with electronics, for example with Atmel's AVR series. - Robotics familiar through school, work and hobbies. - System development from full system simulation model to an embedded vehicle (dSPACE).
SOCIAL SKILLS AND COMPETENCES	<ul style="list-style-type: none"> - Participation to intercultural European Space Agency Outreach Programs; 55th International Astronautical Congress in Vancouver, 6th Student Parabolic Flight Campaign 2003 in Bordeaux, Aurora Student Design Contest 2003 and World Space Congress 2002 in Houston. - Active practice of Capoeira and Karate (participation to workshops and etc.).
ORGANISATIONAL SKILLS AND COMPETENCES	<ul style="list-style-type: none"> - President (2004) and secretary (2003) of Student Unions sport sub-organization PoliTaido. - Organizing of workplace free-time activities. - One-year military service in Kainuu Brigade, group leader.
ARTISTIC SKILLS AND COMPETENCES	<ul style="list-style-type: none"> - Web page development (e.g. http://mielipiteet.fi, http://picsurl.com), OpenGL programming. - Acrobatics, Capoeira.
PUBLICATIONS	<p>13 publications: 7 peer reviewed articles, 6 abstracts (see additional information for details)</p> <p>[1] Heikkilä, S. "The Role of Natural Interaction in Astronaut-Robot Cooperation", International Astronautical Congress (IAC), Prague, Czech Republic, September 2010.</p> <p>[2] Heikkilä S., Halme A., Schiele A., "Human-Human Inspired Task and Object Definition for Astronaut-Robot Cooperation", Proceedings of of The 10th International Symposium on Artificial Intelligence, Robotics and Automation in Space (i-SAIRAS), Sapporo, Japan, August 2010.</p>
ADDITIONAL INFORMATION	http://automation.tkk.fi/SeppoHeikkila