

SEPPO HEIKKILÄ

“Doctor in technology looking for research and development challenges in innovative IT and automation projects requiring software or hardware expertise.”

PERSONAL INFORMATION

Surname, Forenames
Address
Telephone
E-mail
Nationality, Date of birth

HEIKKILÄ, SEPPO SAKARI
Rue des Délices 5, 1203 Genève, Switzerland
+41 78 6673977
Seppo.Heikkila@iki.fi
Finnish, 08.10.1979

WORK EXPERIENCE

Area:
Position:
Responsibilities:

01.2003 – 08.2005, 09.2006 – 01.2012
Finnish Centre of Excellence in Generic Intelligent Machines Research (GIM), Department of Automation and Systems Technology, Aalto University, Espoo, Finland
Robotics, mechatronics, and control of industrial processes
Researcher (04.2005 onwards), Research Assistant
Researcher: **Doctoral studies** in the field of human-robot interaction and a course assistant in the Erasmus Mundus SpaceMaster program (spacemaster.eu). Instructor of five M.Sc. theses.
Research Assistant: robot control softwares, HW and PCB design, ucontrollers, indoor personal **navigation system** (Master's thesis), course assistant (automation fundamentals).

Area:
Position:
Responsibilities:

01.2008 – 09.2008
Automation and Robotics group, European Space Research and Technology Centre (ESTEC), European Space Agency (ESA), Noordwijk, The Netherlands
Automation and robotics
Ph.D. student (within ESA NPI programme)
Research on robotic astronaut assistants.

Area:
Position:
Responsibilities:

05.2002 – 08.2002
3G protocol software team, Nokia Networks, Oulu, Finland
Mobile phone network infrastructures
Trainee
Programming with C, software design with UML-charts, and evaluation of real-time SQL-databases.

EDUCATION AND TRAINING

Organisation:
Subject:
Degree:

10.2006 – 12.2011
Aalto University, Espoo, Finland
Degree programme in Automation and Systems Technology. Thesis: “Affordance-Based Task Communication Methods for Astronaut-Robot Cooperation”.
Doctor of Science in Technology

Organisation:
Subject:
Degree:

09.2005 – 09.2006
International Space University, Illkirch-Graffenstaden, France.
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.
Master of Science in Space Studies

Organisation:
Subject:
Degree:

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

PERSONAL SKILLS AND COMPETENCES	
LANGUAGES	
Finnish	Mother tongue
English	Excellent (reading/writing/verbal)
Swedish	Good (reading/writing) + Satisfactory (verbal)
Spanish	Satisfactory (reading/writing) + Basics (verbal), four half a year courses
French, German, Portuguese	Basics (reading/writing/verbal), one half a year course of each
COMPUTER LANGUAGES	
C/C++	Excellent; several database, control system and graphics software projects (10 years)
Matlab/Octave	Very Good; data processing, Simulink modeling and neural computing projects (7 years)
SQL	Very Good; web page database and client database projects with my/PostgreSQL (9 years)
Java	Very Good; mail-client, database and webpage projects (4 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, Ph.D., master's thesis, etc. (10 years)
HTML, PHP	Excellent, Very Good; webpage development (10 years)
Bash, Perl	Very Good, Good; numerous server maintenance scripts (8 years)
Ada, Ruby	Poor; free time practice with sample programs (1 month)
OPERATING SYSTEMS	
Linux	Excellent; especially with Debian/Ubuntu, Gentoo, and Maemo distributions (10 years)
Unix	Very good; experienced user (8 years)
Windows	Excellent; used since Windows 3.1 (16 years)
SOFTWARES	
Office	MS/OpenOffice, MS Project, Emacs, LyX, Gimp, Inkspace, Dia, Photoshop, Adobe Premiere
Space and automation	STK, LinkBudget, AVR Studio, Eagle Layout editor, dSpace TargetLink, ControlDesk
Computational	Matlab, Simulink, Octave, Mathematica, R, SPSS, Blender, Solidworks, Eclipse
OTHER TECHNICAL SKILLS	<ul style="list-style-type: none"> - Experience with electronics, for example with Atmel's AVR series. - Programming and 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's Outreach Programs; IAC conference in Vancouver (2004), 6th Student Parabolic Flight Campaign in Bordeaux (2003), Aurora Student Design Contest (2003) and World Space Congress in Houston (2002). - Active practice of Capoeira and Karate (participation to workshops and etc.).
ORGANISATIONAL SKILLS AND COMPETENCES	<ul style="list-style-type: none"> - Instructor of five M.Sc. theses, two B.Sc. theses, and several project works. - President (2004) and secretary (2003) of Student Unions sport sub-organization PoliTaido. - One-year military service in Kainuu Brigade (1998), 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, kitesurfing/snowkiting, windsurfing, snowboarding.
PUBLICATIONS	<p>20 publications: 12 peer reviewed articles, 8 abstracts (see additional information for details)</p> <p>[1] Heikkilä S.S., Halme A., "Indirect Human-Robot Task Communication Using Affordances", Proc. of the 20th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), Atlanta, USA, 2011. 🌟 Ro-Man 2011 best paper award winner!</p> <p>[2] Heikkilä S.S., Halme A., Schiele A., "Affordance-Based Indirect Task Communication for Astronaut-Robot Cooperation", Accepted for publication in: <i>Journal of Field Robotics</i>, 2012.</p>
ADDITIONAL INFORMATION	http://iki.fi/seppo.heikkila