

CV

1 Personal Information

Name: **Hans-Petter Halvorsen**

Date of Birth: 1972.01.06

E-mail (Work): hans.p.halvorsen@usn.no

Web: <https://www.halvorsen.blog>

2 Work Information

Present Work: University of South-Eastern Norway

Title: Associate Professor

Web: <https://www.halvorsen.blog/documents/portfolio/>

2.1 Work History

Time	Work
2019 -	University of South-Eastern Norway Associate Professor within Software Engineering, Industrial IT and Automation
2018 - 2019	University of South-Eastern Norway Assistant Professor within Software Engineering, Industrial IT and Automation
2016 - 2018	University College of Southeast Norway Assistant Professor within Software Engineering, Industrial IT and Automation

2009 - 2016	Telemark University College Senior Engineer within the fields System Development, Cybernetics and Industrial IT and Data Communication.
2005 - 2009	Baze Technology AS Software Engineer and Architect. Worked with Software, System Development and Software Architecture. Software Engineer, Software Architect, Product Owner.
1997 - 2005	CARDIAC AS Software Developer. Worked with Software, System Development and Software Architecture. Software Engineer, Software Architect.

2.2 Educational Information

Time	University
1995 - 1997	Telemark University College M.Sc. in Systems and Control Engineering/Process Automation/Cybernetics.
1992 - 1995	Østfold University College B.Sc. in Systems and Control Engineering

3 Industry Experience

I have been working as a System Developer, System Architect, Project Manager and Product Manager within leading Software Companies for about 12 years. I have been working with topics such as:

- Software Development, Software Engineering, Project Management for Software Projects, Software Architecture
- LabVIEW Programming
- Microsoft .NET Platform (Visual Studio with C#, VB.NET) and ASP.NET
- Database Applications and Microsoft SQL Server, MySQL, MariaDB Applications
- Web Programming and Design (ASP.NET, PHP, HTML, JavaScript, CSS, etc.)
- Software Design (Software Architect) and Software Testing
- Team Systems and the Team Foundation Server
- Virtualization

- Project and Product Management

I have been involved in many project deliveries (Software/System Engineering Projects) to leading Norwegian and International Companies, such as Yara, Statoil, Norske skog, Norsk Avfallshåndtering, AHUS, St. Olavs Hospital, etc.

4 Working Fields

These are my main working/research/teaching fields:

- **Software Engineering:** System Development, Software Development, Programming and Software Architecture, Software Engineering, Programming, .NET, Visual Studio, VB.NET, C#, LabVIEW, MATLAB, Database Systems, SQL, etc.
- **Smart Technology**
- **Home Automation Systems:** Home Automation and Smart House solutions, Internet of Things (IoT). Cloud Computing. Industry 4.0 and Smart Factory Solutions.
- **Automation, Cybernetics and Process Control:** Control Theory, Data Acquisition Systems, Process Control Systems such as DeltaV, etc.
- **Mobile Technology for Measurement and Control:** Wireless Sensor Network, Wireless Data Acquisition, Tablets and Smartphones, etc.
- **Industrial IT and Data Communication:** OPC, Real-Time Systems, Wireless Sensor Networks (WSN), etc.
- Data Management, Logging, Control and Monitoring Applications

Figure shows an overview of my work:

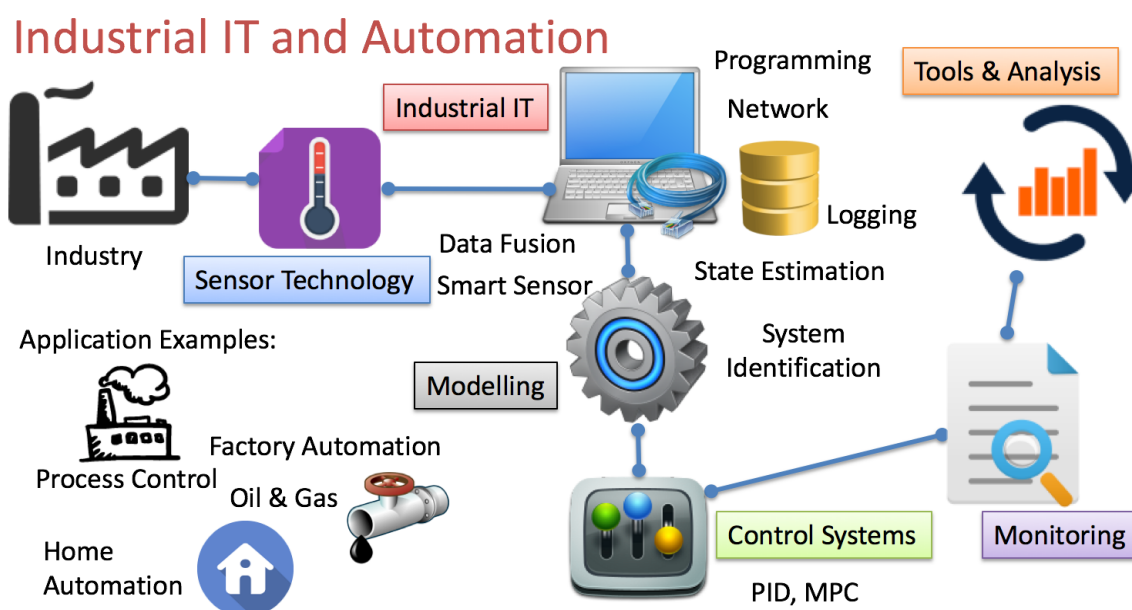


Figure 1: Working Fields within Industrial IT and Automation

For more details about these topics and my work:

<https://www.halvorsen.blog/documents/portfolio>

See also my Technology Web Site:

<https://www.halvorsen.blog>

5 Research and Development (R&D)

5.1 Research Groups

I'm involved in the following **Research Groups** available at University of South-Eastern Norway:

- **SMART Technology**
<https://www.usn.no/research/our-research/technology/smart/>
- **Telemark Modeling and Control Centre (TMCC)**
<https://www.usn.no/english/research/our-research/technology/telemark-modeling-and-control-center/>

5.2 List of Publications

5.2.1 Scientific Articles

2020

- STEAM FOR STEM - INCLUDE "ART" in STEM (Science, Technology, Engineering and Mathematics) - Hans-Petter Halvorsen, Rasma Tretjakova, Josef Timmerberg, Jean Marc Thiriet, Saba Mylvaganam - 29th Annual Conference of the European Association for Education in Electrical and Information Engineering (EAEEIE), 2019, September 4-6, 2019, Bulgaria. Available from IEEE Xplore. Published 2020.

2019

- On-line Monitoring of Viscous Properties of Anti-icing Fluid Based on Multivariate Regression Modeling - Maths Halstensen, Joachim Lundberg, Per Ivan Januschas, Hans-Petter Halvorsen - 60th International Conference of Scandinavian Simulation Society, SIMS 2019, August 13-15, 2019. Sweden. Published in Linköping Electronic Conference Proceedings Series. Open Access.
- Sandboxing for Cross-Platform Applications of Robots - Hans-Petter Halvorsen, Alexander Jonsaas, Saba Mylvaganam - 2019 IEEE International Symposium on

RObotic and Sensors Environments (ROSE), June 17-18, 2019, Ontario, Canada. ISBN 978-1-7281-1964-9. Available from IEEE Xplore.

- Constructive Alignment with Student in Centre and Front - Experience from Case-projects and Intensive Summer Courses - Hans-Petter Halvorsen, Josef Timmerberg, Saba Mylvaganam - MNT Conference, March 28-29, 2019, Tromsø, Norway. Here you see all the Conference Papers. Open Access.
- Fusion of Body Sensors' Data and Video Images in Assistive Technology - Hans-Petter Halvorsen, Karina Kaspersen, Alexander Jonsaas, Saba Mylvaganam - IEEE Sensors Applications Symposium (SAS), March 11-13, 2019, Sophia Antipolis, France. ISBN 978-1-5386-7713-1. Available from IEEE Xplore.

2018

- Environmental Monitoring with focus on Emissions using IoT Platform for Mobile Alert - Hans-Petter Halvorsen, Ola Anton Grytten, Martin Veel Svendsen, Saba Mylvaganam – The 28th EAEEIE Annual Conference (EAEEIE), September 26-28, 2018, Reykjavík, Iceland. ISBN 978-1-5386-7711-7. Available from IEEE Xplore.

2017

- Case Studies in IoT - Smart-Home Solutions - Hans-Petter Halvorsen, Alexander Jonsaas, Josef Timmerberg, Saba Mylvaganam - EAEEIE 2017, The 27th EAEEIE Annual Conference, June 7-9, 2017, Grenoble, France. Available from IEEE Xplore.
- Industrial IT and Automation - Curricula and Experience at USN in the context of Industry 4.0 - Hans-Petter Halvorsen, Nils Olav Skeie, Saba Mylvaganam - EAEEIE 2017, The 27th EAEEIE Annual Conference, June 7-9, 2017, Grenoble, France.

2015

- Project/Problem Based Learning in Electrical Engineering, IT and Automation - Hans-Petter Halvorsen, Josef Timmerberg, Carsten Helgesen, Morten Pedersen, Saba Mylvaganam. ITEN2015 Conference, Łódź, Poland, September 2015.
- Remote control of a robotic arm - A cross-platform study using LabVIEW and DeltaV - Hans-Petter Halvorsen, Alexander Jonsaas, Lilly Eikehaug, Sondre Mogård, Håkon Viumdal, Rune Andersen, Saba Mylvaganam. ITEN2015 Conference, Łódź, Poland, September 2015.

2013

- Experience with Case-projects in Bachelor and Master Studies in Electrical, IT and Systems & Control Engineering - Hans-Petter Halvorsen, Josef Timmerberg, Carsten Helgesen, Morten Pedersen, Saba Mylvaganam - EAEEIE 2013, 24th EAEEIE (European

Association for Education in Electrical and Information Engineering) Annual Conference, Chania, Greece 30 - 31 of May, 2013.

- Intermediate Measurement Node for Extension of WSN Coverage - Rabin Bilas Pant, Hans Petter Halvorsen, Frode Skulbru, Saba Mylvaganam - Journal of Cyber Security and Mobility, Vol. 2, 2013. Available from River Publishers.

5.2.2 Textbooks

2019

- Python for Science and Engineering - Hans-Petter Halvorsen. ISBN: 978-82-691106-5-4. 2019. Web Site. Open Access.
- Python Programming - Hans-Petter Halvorsen. ISBN: 978-82-691106-4-7. 2019. Web Site. Open Access.

2018

- Programming with Arduino - Hans-Petter Halvorsen. ISBN: 978-82-691106-3-0. 2018. Web Site. Open Access.
- Arduino Programming (In Norwegian)- Hans-Petter Halvorsen. ISBN: 978-82-691106-2-3. 2018. Web Site. Open Access.

2017

- Software Development - A Practical Approach! - Hans-Petter Halvorsen. ISBN: 978-82-691106-0-9. 2017. Web Site. Open Access.
- Industrial IT and Automation - A Practical Approach! - Hans-Petter Halvorsen. ISBN: 978-82-691106-1-6. 2017. Web Site. Open Access.

5.2.3 Other Publications

See my publications registered in [Cristin - Current Research Information SysTem In Norway](#)

In addition, I have published lots of R&D material, see my web site <http://www.halvorsen.blog> for all published work.

6 Teaching

I have the necessary educational studies within “Høgskolepedagogikk”. Within my teaching, I use modern teaching principles such as PBL/PBBL methodology, Flipped Classroom, etc.

6.1 E-learning

I also include Digital Tools, Blog, Videos, Interactive boards (SmartBoard, ActiveBoard, iPad), etc. within the teaching.

I use Educational Software such as MS Office, MS Word, Excel, PowerPoint, Visio, Skype for Business (Lync), Microsoft Teams, Zoop, Camtasia Studio, ActiveInspire, NoteBook for SmartBoard, EndNote, EverNote, OneNote, OneDrive, DropBox, Fronter, OmniJoin, Radix (Video Server), etc.

6.2 Practical Teaching

My teaching platform is to involve lots of practical work for the students such as PBL/PBBL, Projects and Laboratory Work in ALL aspects of the teaching, i.e., Learning by doing. I have the last 8 years systematically built up from scratch modern and flexible classrooms for such teaching methods, where the students can sit in groups, have access to necessary equipment, data network and electricity. Interactive boards, chalkboards/Whiteboards and other e-learning aids are present within the same rooms using all the walls available in room.

All teaching material, etc. are published here:

<http://www.halvorsen.blog/documents/teaching>

6.3 Study Programs

I am involved in the following Study Programs at University of South-Eastern Norway:

- Informatikk og Automatisering (IA) (Informatics and Automation), Bachelor
- Industrial IT and Automation (IIA), Master (Campus Study Program)
- Industrial IT and Automation (IIA), Master (Online Study Program)

I am/have been involved in the following Courses at University of South-Eastern Norway:

6.4 Bachelor Level

I am/have been involved in the following Bachelor courses at University of South-Eastern Norway:

Current courses:

- IA4412 - Software Engineering (Course coordinator), 10 credits
- PRH606 - Main Project (Supervisor), 20 credits

Previous courses:

- IA3112 - Automation Systems (Norwegian: "Automatiseringsteknikk") (Lab Work, LabVIEW Training), 10 credits
- EE4007 - Cybernetics Foundation (Lab Work)

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- EE4107 - Cybernetics Advanced (Course coordinator, Lab Work + Project)
 - EE3107 - Cybernetics Project (Course Coordinator)
 - PRG106 - 1. Semester Project (F1 project) (Supervisor)
 - IA6209 - Industrial Communication and Computer Network (Lab Work/Project)
 - IA5106 - Automatiseringsteknikk og praktisk modellering (Lab Work/Project)
 - EE4209 – Model-based Control (Course coordinator, Teaching, Lab Work)
 - IA4212 - Instrumentation (Norwegian: “Instrumenteringsteknikk”)

Most of these previous courses no longer exist at University of South-Eastern Norway due to changes in the curricula and the study programs.

6.5 Master Level

I am/have been involved in the following Master courses at University of South-Eastern Norway:

- MATLAB Course (course coordinator and instructor)
- SCE4206 - Systems and Control Laboratory/Internet of Things and Cyber Security (course coordinator)
- SCE2006 - Industrial Information Technology (Lab Work/Projects)
- SCE4006 - Project (Supervisor)
- FMH606 - Master's Thesis (Supervisor)
- SCE1213 - Hard/Soft Sensors in Process Measurements

The Master courses are taught in English.

For more details about these courses, see my Web site

<https://www.halvorsen.blog/documents/teaching/>

Published Teaching Material

I have published Teaching Material in these Categories:

- Lecture Notes, see <https://www.halvorsen.blog>
- Tutorials within Programming, Industrial IT, Databases, Control & Simulation, DAQ, etc.
- Lecture Notes within Cybernetics, Automation, Control and Simulation
- Teaching material within Software Engineering
- MATLAB Courses and MATLAB Training
- LabVIEW Courses and LabVIEW Training
- Videos, more than 100 videos used in teaching and R&D within Industrial IT, Automation and Software Engineering.

See Web site <https://www.halvorsen.blog> for all published documents.

6.6 Research & Development Projects

Here are some Examples:

- Environmental Public Health Information Management System - Measure, Collect and Monitoring of Environmental Data
- Automation Systems and Industry 4.0 - Industrial Internet of Things (IIoT), Control and Automation Systems, Model Predictive Control using DeltaV, etc.
- Mobile Technology for Measurement and Control - Wireless Sensor Network, Data Acquisition, Development Technology for Mobile Devices such as Tablets and Smartphones, Software Engineering, etc.
- Home Automation and Smart Factory Systems
- Data Logging and Monitoring Systems
- Weather Systems
- Lab Systems
- DeltaV and Process Control Systems
- etc.

See web site <https://www.halvorsen.blog> for more details about my R&D Projects.

7 Councils

I am member of the following councils:

- Member of USN Council for Teaching and Education Rooms
- Member of Council for Portal for Environment and Health. The goal is to develop an overview of greenhouse gas emissions and environmental toxins in Grenland, as well as an overview of the environmental and public health situation of the population.
<http://www.grenlandssamarbeidet.no/innhold/prosjekter/portal-for-miljo-og-helse/>

8 Software

I am working with software such as:

8.1 Programming and Simulation Tools and Software

- Microsoft Visual Studio and the .NET product family including C#, Visual Basic
- Database Systems, including Microsoft SQL Server, MySQL and MariaDB

- LabVIEW
- MATLAB and Simulink
- Python
- Web Programming using techniques and software such as ASP, ASP.NET, ASO.NET Core, Dreamweaver, PHP, HTML, JavaScript, CSS, Bootstrap, Internet Information Services (IIS), etc.
- Team Systems and the Team Foundation Server, Azure DevOps
- Virtualization using VMware and Virtual PC
- InstallShield (software tool for creating installers or software packages)
- Visual Studio Code
- Anaconda and Spyder
- etc.

9 YouTube

I have an official YouTube Channel **Industrial IT and Automation**:

<https://www.youtube.com/IndustrialITandAutomation>

About 200 videos with topics within Industrial IT, Automation and Software Engineering have been published.

10 Web

My website <https://www.halvorsen.blog> is my channel for publishing the teaching material, R&D material, etc. to a broad audience. In addition, the Blog is a source to national and international collaboration, because I daily meet peers worldwide through my Blog (Figure 2).

The purpose of the webpage/blog are many:

- Having all my teaching materials available in one place
- Make a more comprehensive program in the teaching with everything integrated
- To have all R D material available in one place
- Recycling of teaching material and resources across different courses and R&D projects
- A separate and independent channel for the publication of teaching materials and R & D material
- "Advertising" for our studies in Informatics and Automation (Bachelor) and Industrial IT and Automation (Master) with many examples of some of the academic content

and applications, lab assignments, examples of completed student projects, etc. in these courses.

- Video publishing, all my videos are freely available from the webpage/blog
- Short way from idea to realization
- Openness and free access
- Spread the technological messages within my field of expertise
- Access to a large audience, people from over 100 different countries are in visiting the web site/blog
- A historical overview/portfolio of my activities in education and R&D activities
- A showcase of creative work within Teaching, Research and Development within these areas
- Finally, to develop and apply web technology, programming and system development in practice. I teach this, so this is an important way to keep me informed and keep the knowledge of this in mind

I get request on weekly basis from people from other Universities world-wide where they want to use my teaching material, etc. in their courses. I also get lots of requests and feedback from Companies and Universities all over the world regarding Collaboration, Teaching, Research and Development, Referencing to my work, etc.

The web site/blog is for those who are interested in technology, teaching and research and development (Figure 2).



Figure 2: Technology Blog <http://www.halvorsen.blog>

The web site/Blog has more than 200 daily visitors (between 200-400 daily visitors) from all over the world. Totally, this is more than 1400 weekly visitors and about 75.000 yearly visitors.

So far, visitors from 100 different countries have been visiting my Blog, so we can talk about internationalization in a large scale.

10.1 Feedback

Here are some examples of feedback from users all over the world:

“I had gone through your blog. Your web page is a neat showcase of your innovative idea, sincerity and honesty towards the teaching profession. It clearly proves your degree of involvement and extent of dedication in teaching.”

“I found your Blog and for me it was like an oasis in the middle of the desert. Extremely thankful to you and really appreciate the detailed and in-depth explanation you provide in your Videos and the Material you share on your Blog.”

“One of the best professor webpages I ever seen. Thank you for sharing.”

“I have watched almost all of your tutorial videos about LabVIEW which helps me to build my knowledge. It was amazing. Your videos are well prepared and clear and easily understandable.”

“My name is ... and I work at Dura Automotive in Auburn Hills, Michigan USA. I am learning LabVIEW here, and I would like to tell you how much all the information and tutorials you have on your site are fantastic for me as a beginner. I have also looked around at some of your other topics, and I am very impressed. You have a wealth of information only clicks away on my mouse.”

“I found on the internet your tutorial for data acquisition and it helped me so much!”

“I recently found your work on the internet. I am teaching an experimental physics course and would like to use your work. I cannot find any commercially available manuals.”

“I am just after finishing looking at the content on your website and would like to thank you for you very well written content. I am three years using ... and x and also dabble in ... and ... and really enjoy finding sites like yours. Just said I would drop you a line to say thanks.”

“It is written in such a nice way that I wanted to give you my compliments for your work. Also thank you for putting it on the internet, it really helps me forward.”

“My name is ... and I teach MATLAB at the Weizmann Institute, Rehovoth, Israel. ... I would like to ask your permission to use parts of it in my course with due credits of course to you and your institute.”

“Thank you for the excellent resources you have put together for your university.”

“Thank you for posting your It is one of the better guides I have found.”

“Hello, Professor! I am an Electrical Engineering student from Brazil. I found this blog randomly on the internet and I found it incredible. I wish I could be a TUC student to be able to use all of the tools you talk about here. I just wanted to congratulate you because you are doing a great job! Best regards!”

“I found your blog and refereed many tutorials and other resources. Thank you so much for your resources and your useful work. I used to refer your resources for my research work.”

“It's really nice that this kind of mathematics was being shared in order for this kind of thing to be learned and understood by a lot of people who wanted to gain some techniques about it. Through this, it would surely be an easy thing for them to achieve some good scores in mathematics.”

“This blog helped me to get on my feet in the LabVIEW world two years ago. Right from the basics of front panel and block diagrams to OPC communication using shared variable engine and visualization in NI-MAX :). I am doing my PhD on predictive control of microscale

trigeneration systems for grid reactivity and using LabVIEW on the field level of a building automation architecture. This blog has helped me a lot and now I am also using it for developing a State-Machine Control. I am all praises for you Hans-Petter Halvorsen and this blog. Hip-Hip Hurray!!”

“Hi Sir!! You are number One source for Programming in Akwa Ibom State Nigeria!! Big chair from students in Akwa Ibom!!”

“This is about your book: "Introduction to Visual Studio and C#" I have translated it in Persian language (Farsi). I would appreciate you again and again...!”