



SVENSKA
SÄLLSKAPET
FÖR
AUTOMATISERAD
BILDANALYS

SWEDISH
SOCIETY
FOR
AUTOMATED
IMAGE ANALYSIS

MEMBER OF THE INTERNATIONAL SOCIETY OF PATTERN RECOGNITION

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SSBAktuellt

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Omslag: Ida-Maria Sintorn & Robin Strand in traditional Chinese Clothing

>>>> Ordförandes ord



Ida-Maria Sintorn

Hej alla gamla och nya medlemmar!

Vad glad man blir av att vakna upp till ett vintervitt landskap. Hoppas julefriden börjat infinna sig hos er alla så smått. Själv försöker jag hålla tempot uppe för de sista uppgifterna innan juledighet med min 3-årigs Staffansviseversion snurrande i huvudet: Staffan var en stalleträng- vi tack å ljus och gärna. Han vattnar sina fåglar fem- allt för den ljusa färna.

Det här numret av SSBaktuellt har stort fokus på konferenser. Rapporter från föreningens resestipendiater och andra som varit under hösten samt information och call for papers för våra egna arrangemang i vår; SSBA i Göteborg mars, SCIA och SSDL som samarrangeras i Norrköping juni. Titta också gärna på rapporten ifrån ” A career in computer vision”-dagen som hölls i Linköping tidigare i höst. Kan det kanske vara något att ta efter på fler orter?

Får ni någon kul ide när ni knaprar på pepparkakor och knäck så se till att skicka in den till SCIA – deadline 30 januari.

God jul o gott nytt år!

>>>> ICPR 2018 in Beijing

 Ida-Maria Sintorn & Robin Strand

On August 20:th, we traveled to Beijing in China to participate in the 24th biennial world conference on pattern recognition, ICPR 2018. We went there to present some of our research and to represent Sweden in the Governing Board meeting. And, of course, to learn about, and get inspiration from, the research front in pattern recognition.



The Forbidden City

The conference was organized at the China National Convention Center, right next to the “Birdnest”, the main Stadium for the 2008 Olympics. These surroundings were perfect inspiration for running and outdoor exercise, something preferably carried out early in the morning before the temperature climbed over 30.

On Monday August 20:th, four contests, ten pre-conference workshops and nine pre-conference tutorials were organized. At the main conference, August 21-24, 652 scientific papers were presented, 125 as oral presentations in four parallel tracks and 527 as posters. A large part of the scientific contributions were about deep learning, and among these we saw many different applications, but also method development on for example rotational invariance and imposing prior knowledge in the learning process. More traditional image processing methods were also presented.

The prestigious awards JK Aggarwal, King Sun Fu and Maria Petrou were awarded Prof. Kristen Grauman (University of Texas, Austin, US), Prof. Matti Pietikäinen (University of Oulu, Finland) and Prof. Rita Cucchiara (University of Modena, Italy), respectively. Grauman, whose research focus on image matching and retrieval, gave an inspiring plenary lecture where she for example presented approaches for visual learning in the context of multi-sensory observations. Despite some technical problems with the projector, our Scandinavian neighbor Pietikäinen managed to give a great plenary lecture on his impressive contributions to texture analysis and facial image analysis. Cucchiara, who also was acknowledged for her role model for early career researcher, gave an information-rich plenary lecture on tracking and re-identification.

>>>> ICPR 2018 in Beijing

There were six invited keynote talks. Our favorite, the presentation by Zhi-Hua Zhou (Nanjing University, China), “An Exploration to Non-NN Style Deep Learning” was on alternative deep learning strategies. In these strategies, the building blocks are non-differentiable modules and the training process does not rely on backpropagation. Zhou showed that this can be realized by a structure based on random forest blocks. We found his talk very inspiring and are happy to announce that all of you will have an opportunity to hear him speak at next year’s SSDL in Norrköping, June 2019.

Many traditional Chinese dishes were served at the conference dinner, which was at the Gastronomy Museum in Beijing. Dishes such as delicious Peking duck and more questionable mushroom soup with sea cucumber and fish maw (simblåsa) were served while a performance based on different Dynasties gave the history behind some of the dishes.

At the dinner, 20 new IAPR fellows and the venue for ICPR 2022 – Montreal, Canada - were announced. Two representatives from the organizing committee of the next ICPR, Rita Cucchiara and Alberto Del Bimbo welcomed us all to Milano, Italy and the 2020 edition of ICPR. We already look forward to the next ICPR and look forward to presentations of top quality research, and hopefully a big delegation from Sweden.

We also had time for some sight-seeing. Beijing offers many beautiful historical “tourist” areas, such as the amazing Forbidden City, where we were given the opportunity to get our picture taken in traditional looking Chinese clothes.

Ida-Maria Sintorn, Chair SSBA and Robin Strand, co-chair SSBA.



Robin enjoying his first bite of sea cucumber



A Forbidden City Imperial Guard Lion

Robin Strand, Ida-Maria Sintorn, and Ingela Nyström at the IAPR governing Board Meeting

>>>> Nomineringar till Best Nordic Thesis



Per-Erik Forssén

Vi öppnar nu för nomineringar till priset för Nordens bästa avhandling i bildanalys och mönsterigenkänning 2017-2018.

Nomineringar görs av huvudhandledare till avhandlingar som försvarats under något av åren 2017 och 2018. För att effektivisera granskningsarbetet ber vi att endast en student per handledare nomineras.

Har du en student som disputerat under perioden och som skrivit en exceptionellt bra avhandling, som står sig bra även i internationell konkurrens?

Isåfall så nominerar du kandidaten genom att skicka en länk till en PDF av hela avhandlingen (inte bara kappan) till per-erik.forssen@liu.se. I brevet anges även följande:

1. Studentens namn
2. Avhandlingens titel
3. Disputationsdatum
4. Huvudhandledare
5. Examinerande lärosäte

För att vi ska hinna granska de nominerade bidragen krävs att nomineringen inkommer senast 31 december 2018.

Avhandlingarna kommer bedömas av en kommitté som utses av SSBAs styrelse. Bedömningen kommer ta hänsyn till arbetets relevans (inflytande/nyhetsvärde), presentation (litterär kvalitet/områdesöverblick), samt även teoretiska och experimentella kvaliteter.

I ett första skede kommer två avhandlingar per nordiskt land väljas ut (Danmark, Finland, Norge, Sverige), och dessa kommer därefter rankas inom Norden.

Mottagaren av priset kommer annonseras under SCIA-konferensen i Norrköping, 11-13 juni 2019.

Vänliga hälsningar

SSBAs styrelse genom

Per-Erik Forssén

>>>> ICVSS 2018 - Computer Vision after Deep Learning



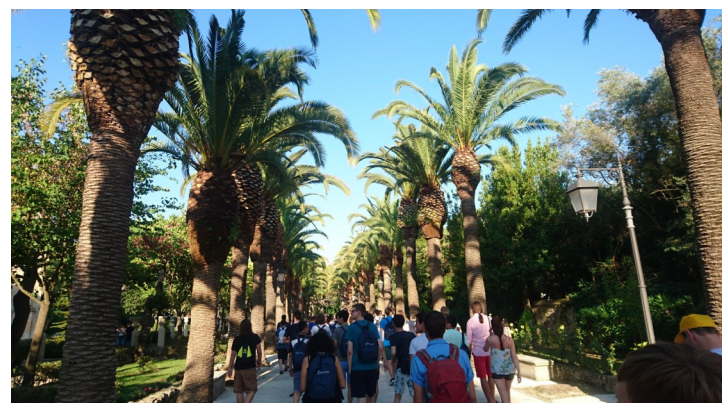
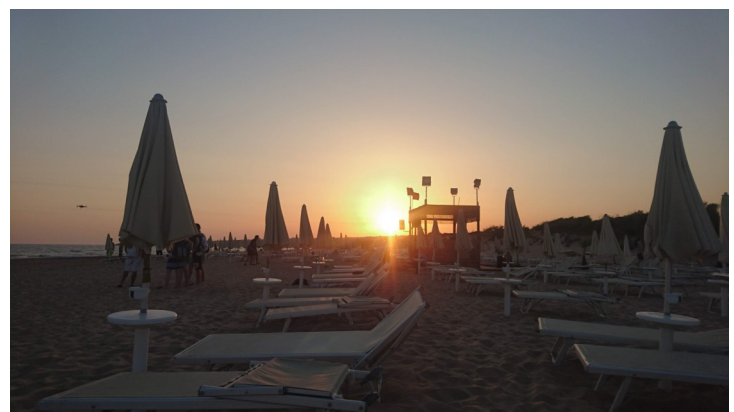
Amanda Berg

The twelfth edition of the International Computer Vision Summer School, ICVSS, was as usual held on the beautiful island of Sicily, this year from July 8th to 14. The school accepts 100 applicants from both academia and industry. Apart from hosting a few of the worlds most renowned researchers within the field of Computer Vision, it also provides the opportunity to dance traditional Sicilian folkdance with them. Unfortunately I have no pictures of that since I was dancing like a fool myself.

There were in total 15 lectures during the week, covering topics such as geometry, recognition, localization, and learning. They were given by well-known researchers within the field such as Chelsea Finn, Josh Tenenbaum, and Carl Vondrick. The most memorable lecture was given by Antonio Torralba who told the participants about his mother who has been labeling images for him for several years. She has even written a [paper](#) about it. In summary, all lectures had high standards, were well-reasoned and since the speakers had plenty of time, they could explain most parts in more detail. Many of the speakers stayed at the hotel which provided the students with the opportunity to engage in discussions with them. For me, it became a bit awkward at several times since I did not recognize some of them and suddenly we were sharing tables at breakfast.

In addition to lectures, the summer school also had two evening poster sessions (in combination with local wine tasting) and reading groups. The school also hosted an essay competition and best poster award. It is impossible not to mention the Sicilian food at the hotel which was truly amazing. Unfortunately, due to an aggressive kindergarten cold, I had lost my sense of taste for the three first days.

All in all, [ICVSS2018](#) had high standards, invited to many interesting discussions, and was held in beautiful surroundings. "The best prison", as someone called it! I would gladly recommend it to others.



MISS 2018 - Medical Imaging meets Deep Learning



Eva Breznik

This year's edition of the Medical Imaging Summer School was centered around deep learning for medical imaging, trying to bridge the gap between both ends and highlight the specificities of biomedical data. It hosted 150 participants from around the globe, offering a lot of good opportunities for networking - two poster sessions, organized dinners and even scheduled free afternoons and a tuna-factory tour.

Lectures were given by a number of renowned speakers, covering a wide range of topics from theory and understanding of deep learning models to meta-learning and purely application-oriented medical side. The tradition of reading groups also continued this year; each group discussed a selected paper with one of the summer school speakers as a discussion leader. This gave us a nice opportunity to converse with the speakers in a more relaxed and less crowded environment.

Free time was usually spent exploring the beautiful island of Favignana, visiting beaches, attempting to try out all the local gelaterias and pizzerias, and catching amazing views from the top of the Santa Caterina fortress hill at sunsets.

Despite the extreme summer heat, I can only recommend the summer school to anyone who is interested in the field. It proved to be a very good venue for meeting people working in the same topics, as well as for gaining more knowledge on the use of deep learning with medical images.



>>>> ISSDL 2018



Karl Holmquist

I slutet av Juli genomfördes den andra upplagan av International Summer School of Deep Learning 2018 i Genua, Italien. Ett högt tempo hölls och totalt var det 24 olika kurser som presenterades under veckan.

En bred bakgrund inom olika forskningsområden gav en intressant blandning av perspektiv och ämnen relaterade till deep learning och machine learning. Några av dem representerade områden var, naturvetenskap, medicin, signalbehandling, action recognition, reinforcement learning och speech recognition. Flera kurser om enterprise-scale deployment, optimering och regularisering under träningsfasen presenterades också under veckan.

Två intressanta keynotes hölls, professor Paolo Frasconi presenterade "Bilevel Programming for Hyperparameter Optimization and Meta-Learning" och "Motion Supervision in Visual Environments" presenterades av professor Marco Gori. Ett tillfälle där företag fick demonstrera deras användande av deep learning och ett där studenter kunde presentera sin pågående forskning hölls också under veckan.

Intresset för ISSDL 2018 var stort med över 1000 personer anmälda från många olika länder med deltagare både från industrin och akademien. Nästa års upplaga är i planeringsfasen.

Ett stort tack till SSBA för stipendiet som de erbjöd för sommarskolan.



>>>> SSDL 2018

 Raphaëla Heil

Following SSBA 2018, SSDL was only the second Swedish symposium I attended. Based on this previous experience, I expected a comparably small event and was surprised by the rather large audience and venue.

Day one of SSDL was focused on general machine learning and medical imaging, as well as a poster session during part of the afternoon. On the second day, natural language processing and computer vision were the main focus areas.

In my opinion, the choice of topics gave a good overview of different deep learning application areas and the invited talks provided a nice framework surrounding the paper presentations. In addition to the topics presented by my immediate colleagues, it was very interesting to learn more about what PhD students and researchers from other institutions are working on. Furthermore, the coffee breaks and lunches at the venue offered many opportunities for extended discussions about the presentations and displayed posters.

SSDL was the first occasion for me to present early results of my work in front of a larger audience, since I started my PhD in the beginning of 2018. I perceived this talk as a pleasant and rewarding experience, due to the friendly atmosphere and the thought-provoking comments from the audience.

All in all I enjoyed SSDL 2018 and am looking forward to future iterations, where I hope to present new results from my own work and especially learn more about the approaches fellow PhD students are taking.



>>>> A Career in Computer Vision - Visual Sweden Student Day

 Ola Friman

On September 18th, a ‘Career in Computer Vision’-event was jointly hosted by Visual Sweden and SSBA in the Mjärdevi Science Park in Linköping. The event had as goal to attract students to studies in image processing & computer vision, which is also a strategic aim actively addressed by the SSBA society.

About 70 students attended, primarily from Linköping and Norrköping. The program consisted of presentations by PhD students from Linköping University and young professionals from computer vision intensive companies, giving an insight in their everyday work and why they have chosen the computer vision career. Several companies, including SICK, Veoneer, Termisk Systemteknik, Mabema, Visage Technologies, Sectra, Image Systems and Woodeye complemented the event with an exhibition, also including their offers of around in total 50 Master’s Thesis topics. Linköping University presented their courses in the area as well.

The idea of a ‘Career in Computer Vision’ day was born at the SSBA-retreat in Ystad in November 2017. SSBA members from Linköping then contacted Visual Sweden, an initiative oriented at promoting innovation and regional growth in Linköping and Norrköping within the visualization and image analysis fields, to join forces in organizing the event. Given the success and interest by both students and companies, it is likely that this can become a reoccurring event in Linköping, with the hope that the concept can be implemented also in other regions.

Ola Friman
ola.friman@sick.se



>>> SCIA 2019 i Norrköping



Nästa sommar kommer SCIA-konferensen tillbaka till Sverige och Linköpings Universitet. Därmed är vi tillbaka där konferensen en gång började 1980.

Mer specifikt kommer SCIA 2019 hållas i Norrköping, på Linköpings Universitets campus Norrköping. Arrangörer är Jonas Unger, från avdelningen för visuella beräkningar, samt Michael Felsberg och Per-Erik Forssén, från avdelningen för Datorseende. Konferensens webbplats hittar man här: <http://ssba.org.se/scia2019/>

Norrköping kan nås via tåg inom Sverige och det finns även ett flertal flygplatser att välja mellan: Norrköping (NRK), Linköping (LPI), Skavsta (NYO), samt även Arlanda (ARN) är praktiska alternativ för utländska deltagare.

Bidrag skickas in via Microsoft CMT, som nu har öppnat och kan nås från konferensens webbplats. Accepterade bidrag kommer precis som tidigare år publiceras i Springers LNCS-serie.

Keynote Speakers:

Laura Leal-Taixé, Professor, Technical University of Munich

Lourdes Agapito, Professor, University College London

Fred Hamprecht, Professor, Heidelberg University, Visiting Professor, Uppsala University

Important Dates:

Paper submission deadline:	30 januari
Notification of acceptance:	21 mars
Submission of camera ready manuscript:	3 april
Early-bird registration deadline:	3 april
Conference:	11-13 juni

Välkomna till Norrköping nästa år,

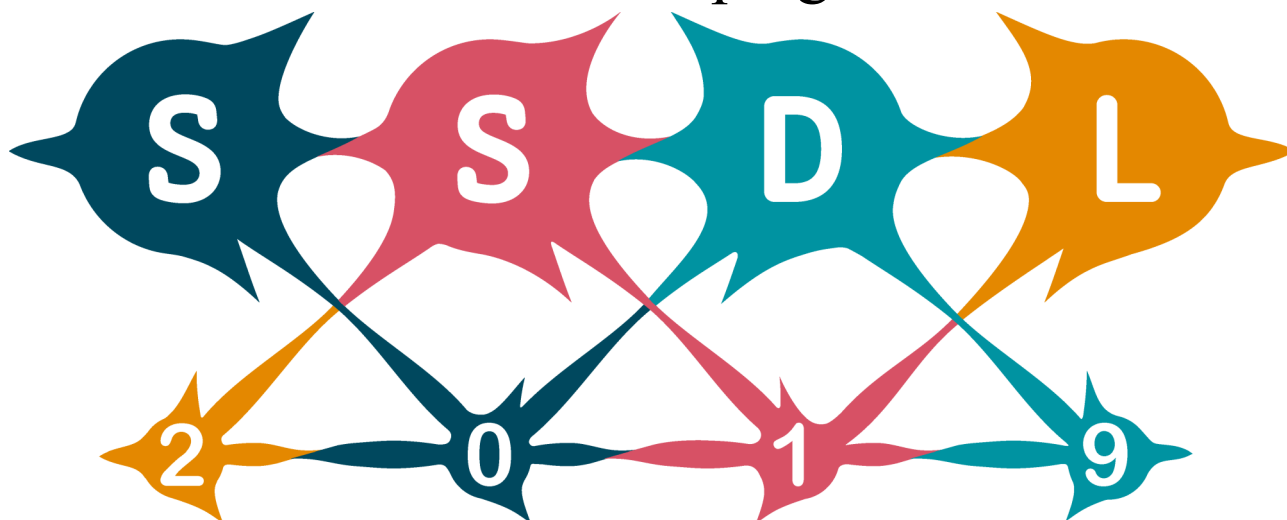
Jonas Unger

Per-Erik Forssén

Michael Felsberg

Ida-Maria Sintorn

»»» SSDL 2019 i Norrköping



The Third Swedish Symposium on Deep Learning (SSDL) takes place in Norrköping June 10-11 (lunch to lunch). The 2019 SSDL edition is arranged by the [Swedish Society for Automated Image Analysis \(SSBA\)](#). The symposium is co-located with the [Scandinavian Conference on Image Analysis \(SCIA19\)](#) which follows directly after the symposium.

The development and impact of deep learning in areas such as image processing and natural language processing have been huge for the past decades. SSDL is a forum for leading research groups in academia and industry to discuss the latest trends and developments in deep learning. SSDL19 in Norrköping will feature invited talks by leading researchers in deep learning applied to image processing and natural language processing, and oral and poster presentations of submitted abstracts.

SSDL invites extended abstracts of 2-4 pages presenting ongoing or past research in deep learning to be considered for presentation at SSDL19. The abstracts will be made available on the public symposium [webpage](#).

Keynote Speakers:

Emily Denton, Courant Institute, New York University, New York, USA
 Jussi Karlgren, KTH & Gavagai, Stockholm Sweden
 Geert Litjens, Radboud University Medical Center, Nijmegen, The Netherlands
 Wiro Niessen, Erasmus MC, Rotterdam, The Netherlands
 Josephine Sullivan, KTH, Stockholm, Sweden
 Zhi-Hua Zhou, Nanjing University, Nanjing, China

Important Dates:

March	27	Abstract submission deadline
April	2	Notification of acceptance
April	3	Early-bird registration deadline
June	10-11	Symposium

More information can be found [here](#)

»»» SSBA Symposiet 2019 i Göteborg



2019 års upplaga SSBA symposiet kommer gå av stapeln i Lindholmen Conference Center i Göteborg.

Important Dates:

Registrerings deadline:	19 februari
Paper deadline:	28 februari
Doktoranddag:	18 mars
Välkomstmöte:	18 mars
Konferensmiddag:	18 mars
Konferens:	19-20 mars

>>> Anslagstavlan

På denna sida annonseras korta nyheter och notiser, såsom mottagna forskningsanslag, medieframträdanden, eller annat smått och gott som är av intresse för SSBaktuellts läsare. Meddela redaktionen vid nyheter!

Uppsala

- Carolina Wahlby presenterade på [Forska Sverige!](#) om temat ”AI som verktyg för hälsa” samt deltog i efterföljande diskussioner med ett antal riksdagsledamöter och innovationsminister Mikael Damberg. Stora delar av diskussionen handlade om hur vi bör jobba med tillgängliggörande och strukturering av patientdata, och hur man som forskare ska tolka regler (GDPR), samt etiken kring de regler som finns idag.

>>> Aktuella avhandlingar



Här presenteras de avhandlingar som publicerats sedan senaste numret av SSBAktuellt och kommit redaktionen till känna. Meddela redaktionen om aktuella avhandlingar.

Doktorsavhandlingar

Hannes Ovrén, Linköpings universitet
Continuous Models for Cameras and Inertial Sensors

Sebastian Bidhult, Lunds universitet
Validation of Phase Contrast Flow Quantification and Relaxometry for Cardiovascular Magnetic Resonance Imaging

Axel Ringh, KTH
Multidimensional inverse problems in imaging and identification using low-complexity models, optimal mass transport, and machine learning.

Hanqing Zhang, Umeå universitet
Digital holography and image processing methods for applications in biophysics