

SSBAktuellt

>>>nr 72 juni 2025



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SSBAktuellt
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Juni 2025

Ordförandes Ord



Amanda Berg

Kära medlemmar,

Sill och jordgubbar, blomsterkransar och långa ljusa kvällar – sommaren har verkligen gjort sin entré. Nu när midsommar är över blickar vi framåt mot det som väntar: nya projekt, spännande möjligheter och kanske en stunds välförtjänt vila i hängmattan. I detta nummer av SSBAktuellt tittar vi tillbaka på våren som varit med bland annat rapporter från årets symposium och CBA dagen. Nästa symposium blir lite speciellt då föreningen under 2026 firar 50 år. Varmt välkommen till Örebro och fira med oss!

Jag önskar dig en fortsatt solig och avkopplande sommar, tack för att du är en del av vår förening!

Juni 2025, Sweden

A Word from the Editors

Call for SSBAktuellt Content

Dear SSBA Community,

Midsommar is upon us again! It is time to rest and recover, and when you take a break from enjoying the warm sun we have some news for you! We will begin with an exciting announcement and a few spotlights, and following that we have some conferences to tell you about! Glad midsommar!

We also wanted to take this opportunity to invite you all to contribute your ideas and engaging content, such as conference reports, internship experiences, interviews, and more, for inclusion in the upcoming issues of SSBAktuellt. Feel free to reach out to us at redaktionen@ssba.org.se with your suggestions.

Kind Regards,
SSBAktuellt Redaktionen

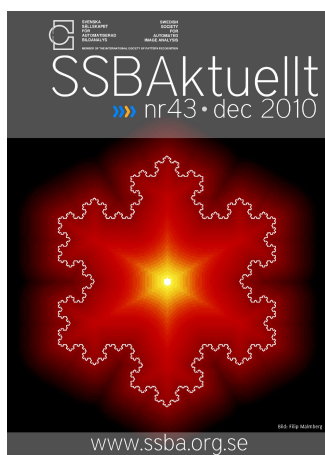


James

A Word from the Editors

Call for SSBAktuellt Cover Images

Do you have photos, images or graphics you would like to share with SSBA community that would fit the SSBA newsletter? Images connected to Sweden, your research, SSBA activities or graphics which relate to image analysis are all welcome! Please send your proposal to redaktionen@ssba.org.se.



Announcement!

50 Years of SSBA!



Next year marks an important milestone for the society: the 50th year anniversary! A celebration is planned to take place in conjunction with the annual symposium that will be held in Örebro at Örebro castle March 11-13 2026 (save the date!).

The board and organizing committee are looking for ideas/suggestions for the celebration. If you have some ideas or thoughts, please send them to ssba@ssba.org.se

At the Annual General Meeting, the following suggestions were proposed:

- Fancy dinner with dress code and entertainment.
- Extra Budget for invested speakers.
- Some history presentations covering the 50 years of the society. (Any volunteers? Please send an email to ssba@ssba.org.se)

Member Spotlight

Michael Felsberg



SSBA would like to congratulate Michael Felsberg on his recent elevation to IAPR and Ellis Fellows for his work in computer vision. These are two significant achievements. For those who don't know Michael here is a little about him.

Michael has a background in signal processing for computer vision. Michael (1974) earned his PhD from Kiel University in Germany. and started his Swedish academic career at Linköping University 2001. In his postdoc project, he investigated machine learning approaches to computer vision, a topic that was a highly niche topic at that time, but became mainstream around 2012.

Michael became an associate professor at LiU in 2004, docent in 2005, and full professor in computer vision in 2008. Michael has also held multiple roles in the management of the WASP (Wallenberg AI, Autonomous Systems and Software Program) and has been part of WASP since its beginning. He has also been an active SSBA member. In the past he has served as a board member

and vice chair for SSBA.

In his research he scored 3rd in the first visual object tracking (VOT) challenge held in 2013 with his holistic feature map-based EDFT method and in 2014 his team won the VOT challenge with their discriminative correlation filter-based tracker. These and the subsequent works on tracking, many of them authored by his PhD student Martin Danelljan, had a significant impact to the field and are the main reason he became an honorary professor at the University of KwaZulu-Natal (Durban South-Africa) and for his election as an IAPR fellow in 2024. In the same year, he also was elected as an ELLIS fellow for his work on geometric deep learning. These achievements were followed by one more fellowship from the Asia-Pacific AI Association in 2025.

Congratulations, Michael!

Spotlight

AI Sweden i Korthet

[AI Sweden](#) skapades på uppdrag av regeringen 2018, utifrån en analys som pekade på svårigheter för Sverige att hänga med i den internationella AI-utvecklingen. AI Sweden drivs som en icke-vinstdrivande nationell satsning koordinerad genom värdorganisationen Lindholmen Science Park med uppdraget att accelerera AI-användningen till nytta för samhället, Sveriges konkurrenskraft och alla som bor i Sverige.

Verksamheten är organiserad i ett nationellt arbete och i geografiska noder i bland annat Göteborg, Stockholm och Linköping, vilket skapar regional närhet till såväl forskning som industri. Idag finns ett flertal värdorganisationer runtom i Sverige som successivt tillkommit, som nyttjar sina befintliga nätverk, kanaler och resurser för att nå ut till partnerorganisationer.

AI Sweden finansieras genom en kombination av statliga medel – bland annat 100 miljoner kr från Vinnova 2020-2024 – och partnerbidrag.

Partnerbidragen har under åren vuxit att bli den dominerande delen. Partnernätverket växte med 41 nya aktörer bara under 2024 och omfattar nu över 160 organisationer från alla samhällssektorer. Partnerskapet ger medlemmar tillgång till bl a expertgrupper inom exempelvis infrastruktur, juridik och etik, kunskapsdelnings-event, projektsamverkan samt matchmaking-dagar där projektidéer kan hitta finansiering etc.

Genom att fungera som en neutral och NDA-fri plattform möjliggör AI Sweden tvärsektoriell samverkan som är svår att åstadkomma i traditionella projektstrukturer.

AI Sweden har genom åren skapat en rad strategiska projekt och satsningar tillsammans med partners och genom samarbeten med andra aktörer i samhället. Exempelvis byggde man tidigt tillsammans med RISE, och med stöd av WASP WARA-M&L samt BerzeLiUs (NSC), den svenska språkmodellen GPT-SW3 som länge var av de största LLM:erna i världen som inte byggde på engelska eller kinesiska utan representerade ett litet språk. Modellen är unik genom att den är öppen och transparent och inte har inbyggda filter i användningen, utan istället fungerar som en forskningsplattform där man tilläts använda den via ett ansökningsförfarande med bl a etiska kriterier. GPT-SW3 har sedan dess ersatts av nya modeller och AI Sweden är nu inblandade i ett antal europeiska initiativ för att bygga språkmodells-artefakter.

Flaggskeppsprojekt

AI Sweden driver just nu två flaggskeppsinitiativ som visar hur man går från proof-of-concept till robust, skalbar drift:

SVEA, den gemensamma digitala assistenten för offentlig sektor, och **DDO - Data-Drivna Organisationer**, Sveriges hittills största MLOps-projekt. Båda projekten adresserar klassiska flaskhalsar – från laglig dataåtkomst och RAG-pipelines till versionshantering av modeller och organisationsförändring – och erbjuder därmed en färdig spelplan för ingenjörer som bygger avancerade AI- och datorseendesystem.

SVEA - en nationell LLM-assistent för offentlig sektor

Syfte och omfång

SVEA föddes ur behovet av att hantera stora textmängder inom kommuner, regioner och statliga myndigheter. I dag deltar **55 organisationer och över 2 000 anställda** i arbetet. Projektet drivs av AI Sweden i tre faser: behovsanalys (2024), storskaliga tester (2025) och långsiktig förvaltning (2026 →). [AI Sweden](#)

Arkitektur

- **Modellagnostisk RAG-plattform:** SVEA använder en öppen chatt-UI som kan byta språkmodell utan att påverka frontend eller backend-logik. Detta ger fördelen att man kan koppla sig till nya modeller i takt med den snabba utvecklingen av generativ AI som sker runtom i världen,
- **Säker drift i Sverige:** All databehandling sker på inhemsk infrastruktur för att möta krav i OSL och NIS2.
- **Domän- och juridikloop:** Jurister och ämnesexperter bidrar med prompt-policyer och datasäkring innan ny kunskap släpps i produktion.

Resultat hittills

- **80 % av pilot-användarna** uppger tidsbesparingar och högre besluts kvalitet.
- Under 2024 samlades **4 000 instruktionsexempel och 500 RAG-testfall** via aktiv in-context-träning av personal i tre kommuner.
- Prototypen har **6 000 registrerade konton** i april 2025.

För utvecklare innebär detta en unik chans att experimentera med prompt-ingenjörskonst på verkliga myndighetsdata och möjlighet till benchmarking av multimodala tillämpningar i en juridiskt korrekt miljö.

DDO - Data-Drivna Organisationer: professionell MLOps i praktiken

Projektets övergripande mål

DDO ska formulera **bästa praxis för att operationalisera AI i stor skala** och drivs av 15 partners från akademi, industri och offentlig sektor. Med en budget på 35,7 Mkr och Vinnova-finansiering på 15 Mkr täcker projektet hela kedjan från data-strukturering till drift och governance. Projektet tar ett helhetstag runt en organisation går från ett PoC till att sätta modeller i drift och bli en fullt datadriven organisation med processer, roller och ansvar som stödjer detta. [AI Sweden](#) [Vinnova](#)

Utmaningar

De tekniska utmaningarna omfattar förändringar i både data och modeller. Centrala frågor är:

- Kommer nya data att samverka med en befintlig modell på samma sätt som de data som redan används?

- Kommer en uppdaterad modell att tolka data konsekvent jämfört med sin föregångare?

Hur kan modeller effektivt tränas om med nya data?

Ur ett organisatoriskt perspektiv handlar viktiga överväganden om att definiera nödvändiga roller och ansvarsområden, etablera processer som leder AI mot rätt mål samt fastställa förutsättningar för nya projekt, datainhämning och teknikanvändning.

Projektet etablerar dessutom en **öppen MLOps-sandbox** i AI Swedens Edge Lab där deltagarna kan validera egna CI/CD-strategier mot gemensamma dataset.

Varför är detta relevant för AI- och CV-ingenjörer?

- **Standardiserad MLOps:** DDO levererar kodexempel och policies som direkt kan integreras i t.ex. Kubeflow eller Hopsworks vid träning av stora detektions- eller segmenteringsnät.

Öppen testbädd: Edge Lab ger fysisk tillgång till sensorer, kameror och Gaudi-kluster – ett snabbt sätt att benchmark:a inference-latens “på kanten”.

Samverkan med akademi

Riktat mot akademiska aktörer i Sverige, har AI Sweden påbörjat ett arbete att utveckla nyttan och värdet av samverkan mellan akademien och övriga ekosystemet inom AI-området. Genom samarbetet med [Santa Anna IT Research Institute](#) vill AI Sweden skapa en plattform för att identifiera och forma nya projekt i samverkan med partners, inte minst med forskarsamfundet och akademien.

Vill du ha kontakt med AI Sweden, kontakta Fredrik Viksten eller Niclas Fock på Linköpings Universitet / Santa Anna, båda aktivt verksamma inom AI Sweden.

Conference Report

SSBA/SSDL 2025

The 42nd Swedish Symposium on Image Analysis (SSIA) and the 8th Swedish Symposium on Deep Learning (SSDL) took place at the KTH Royal Institute of Technology in Stockholm from 12 to 14 March 2025. Having completed my PhD in Switzerland just a few months earlier, I was now arriving in Sweden as a newly qualified postdoc. This conference was therefore the perfect opportunity to present my research, find out who is working in this field, and discover the topics currently being researched at different Swedish universities. As it was also my first visit to Sweden, I was very excited to be travelling to Stockholm.

Professor Paolo Favaro from the University of Bern opened the event with a keynote speech, presenting his work in the field of autonomous learning. Their aim is to develop models that can autonomously and flexibly generate solutions to problems from raw data. This provides a new way of accessing data, as it no longer needs to be laboriously annotated by humans. It also opens up the possibility of finding solutions that are not based on, or limited by, human understanding or semantics.

The first oral session of the conference showcased the broad range of applications for deep learning image analysis, featuring presentations from various fields. These included methods of rotational and geometric invariance and the automatic detection of footballers from monocular images, as well as my own contribution on analysing ancient Egyptian papyrus fragments.

The reception at the end of this day deserves a special mention. Its location was kept secret until the last moment — and for good reason: we descended into an old nuclear reactor room at the KTH site, which was previously used for research purposes, but has now been decommissioned and dismantled. Today, the underground laboratory is also used for cultural and artistic purposes and even contains an organ. The room itself is impressive and memorable, with walls covered in markings from radiation scans and a large hole in the centre where the reactor once stood.



On the second day, the programme began with a session featuring various industry representatives. This provided a valuable opportunity to gain insight into the commercial applications of machine learning and image analysis in Sweden, as well as making valuable contacts for the future.

Other sessions on this day included presentations on the analysis of historical documents and the prediction of wildfire spread, as well as work on Large Language Model (LLM) hallucinations. Of particular note was the second keynote lecture, delivered by Professor Toshihiko Yamasaki from the University of Tokyo. Professor Yamasaki discussed the history, potential and risks of generative AI. He also presented research on identifying "deepfakes" — an important field that will undoubtedly become much more significant in the future.

The final session of the day was the poster presentation. Each presenter had the chance to give a brief overview of their work, which provided a useful summary of all the posters on display. This also enabled engagement with the researchers in a different way, allowing attendees to delve straight into the topic. It's an excellent concept, provided there are a manageable number of posters.

The day concluded with two other important conference events: the annual SSBA meeting, where finances and planning for the coming (anniversary) year were discussed; and the conference dinner, which took place in a beautiful restaurant on the KTH grounds. The award for the most impactful presentation from an industry perspective was also presented here. And, of course, the venue for next year was announced: Örebro!

On the third and final day of the conference, a variety of oral sessions were held, featuring presentations from different fields. These included medical imaging, bacterial type identification and the semantic labelling of points in laser scanning of environments, for example. The day also featured the third keynote lecture, delivered by Professor Carolina Wählby from Uppsala University. Professor Wählby provided an engaging overview of developments in image analysis and their potential applications in disease and protein structure detection in cell materials.

Sweden's image analysis landscape is remarkably diverse, and only a fraction of the contributions made to the conference can be covered in this brief report. In this respect, SSBA/SSDL is an excellent opportunity to meet new colleagues and learn about innovative research approaches that can inspire one's own work, even if they appear to originate from an entirely different field. I will certainly continue to attend the conference to stay informed about developments in this field in Sweden. And thus, I am particularly looking forward to next year's SSBA/SSDL in Örebro.

The Author

Stephen M. Unter
Postdoctoral Researcher
Luleå University of Technology

Event Report

CBA Day 2025



The [CBA Day 2025](#) - Centre for Image Analysis Day
Uppsala, Sweden – May 20, 2025

The Ångström Laboratory once again hosted the annual CBA Day, organized by the [Centre for Image Analysis](#) at Uppsala University. The 2025 edition brought together a vibrant community of researchers, students, and professionals from across disciplinary domains, all united by a shared interest in image analysis and its diverse applications. The event began with a warm welcome from Nataša Sladoje, Director of the Centre, who emphasized the importance of interdisciplinary collaboration and the growing role of image data in modern research. Her opening remarks set the tone for a day filled with scientific presentations, interdisciplinary dialogue, innovation and discovery.

Featured oral presentations
Eight invited oral presentations highlighted diversity of research at Uppsala University that involves imaging and image analysis:

- **Filipe Maia** opened the session with Ultrafast nanoscale biological imaging, showcasing how cutting-edge imaging techniques are enabling researchers to observe biological processes at unprecedented temporal and spatial resolutions.
- **Andreas Thor** presented an overview of Craniofacial virtual surgical planning, discussing both previous and current approaches and proposing future enhancements to improve surgical outcomes through advanced image-guided planning.
- **Anna Klemm** presented the BioImage Informatics Infrastructure Unit, a national resource providing expert support in bioimage analysis across Sweden.
- **Sifra Bijl** informed about the activities of the Tomography Support Center, a new initiative aimed at assisting researchers with tomographic imaging and analysis, including the announcement of the upcoming “Tomo Day.”

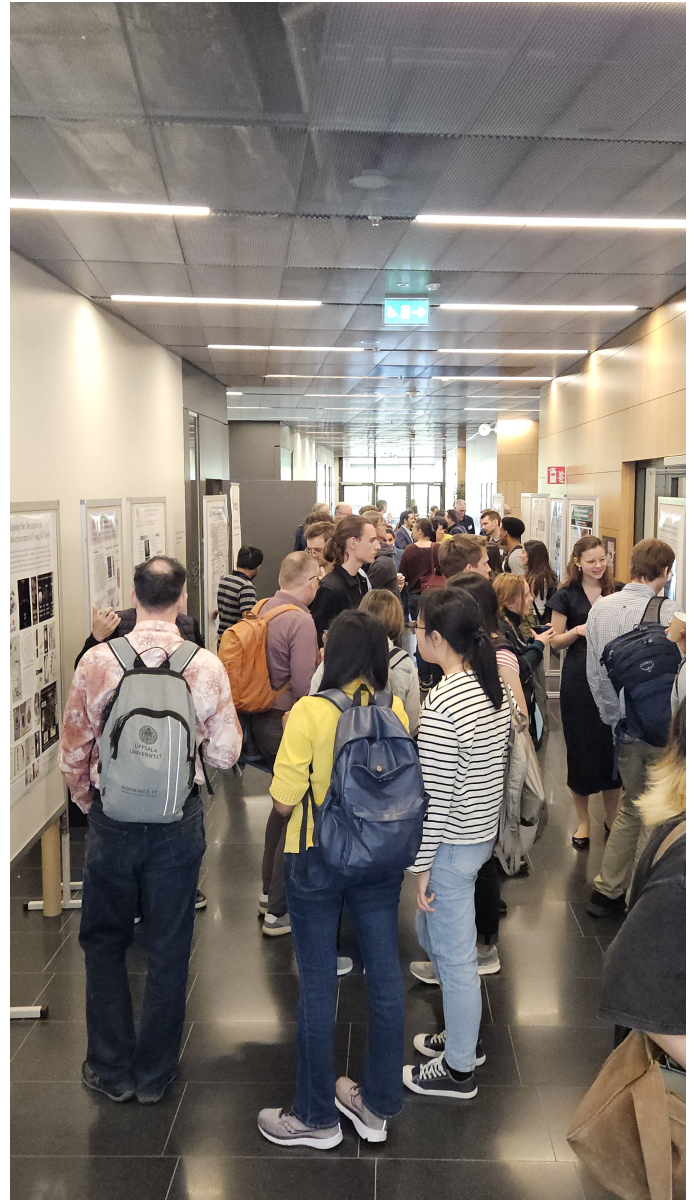
- **Matteo Magnani** explored Image analysis for the study of social communication, highlighting how visual data can be used to understand patterns in human interaction and digital behavior in a global political context.
- **Nikolai Piskunov** shared insights on Image processing in astronomical spectroscopy, demonstrating how image analysis enhances the interpretation of spectral data from celestial observations.
- **Anna Foka** presented her studies recently published in a book *AI and Image: Critical perspectives* regarding heritage collections, addressing ethical and interpretative challenges in the digitization and AI-driven analysis of cultural heritage.
- **Patrick Micke** concluded the oral sessions with Multidimensional image analysis of tissue sections for biomarker discovery, presenting how complex image data can reveal new insights in cancer diagnostics and personalized medicine.

Interactive Sessions

The event also featured poster sessions (with 19 presented posters), three software demonstrations, and mingling over coffee and cake. These sessions provided a relaxed yet stimulating environment for attendees to exchange ideas, explore collaborative opportunities, and gain hands-on experience with new tools.

Reflections

The CBA Day 2025 attracted more than 80 participants and was widely praised for its inclusive atmosphere and the breadth of topics covered. It successfully fostered new connections and inspired future research directions, reinforcing the Centre's role as a hub for image analysis innovation.



Announcement

Aktuella Avhandlingar

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



Kunal Chelani

Chalmers University

Dept. of Electrical engineering, Computer vision and medical imaging group

[Privacy in visual localization](#)

Main Supervisor: Torsten Sattler

Xixi Liu

Chalmers University

Dept. of Electrical engineering, Computer vision and medical imaging group

[Towards Reliable Deep Foundation](#)

[Models in OOD detection, model calibration, and hallucination mitigation](#)

Main Supervisor: Christopher Zack

Rasmus Kjær Høier

Chalmers University

Dept. of Electrical engineering, Computer vision and medical imaging group

[Local Learning Rules for Deep Neural Networks with Two-State Neurons](#)

Main Supervisor: Christopher Zack

Richa Upadhyay

Luleå Tekniska Universitet

Machine Learning Group

[Sharing to Learn and Learning to Share: Meta-learning to Enhance Multi-task Learning](#)

Main Supervisor: Marcus Liwicki

Prakash Chandra Chhipa

Luleå Tekniska Universitet

Machine Learning Group

[Towards Robust and Domain-aware Self-supervised Representation Learning](#)

Main Supervisor: Marcus Liwicki

Amirhossein Ahmadian

Linköping University

Department of Computer and Information Science (IDA)

[Handling Novel and Out-Of-Distribution Data in Deep Learning: OOD Detection and Shortcut Mitigation](#)

Main Supervisor: Fredrik Lindsten