

A black and white profile photograph of Martin Hedlund, looking towards the right. The image is high contrast, with the left side of his face and neck in deep shadow against a bright white background.

Q&A with CTO Martin Hedlund

Changing the game – again!



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Martin Hedlund, CTO

Q — In what way will AI disrupt conventional technology within medical imaging?

A — The concept of AI and machine learning has the potential to change the game of medical imaging. We can train neural networks with much more data than humans experience during a lifetime. This means that we can reproduce the competence of the best experts, or even outperform them! We can guarantee reproducibility in exams and diagnosis, and avoid human subjectivity and variations. With active learning models, results can continuously be improved. With better ground truth, i.e. data from different sources, time or outcome, AI can make better predictions, solve more complex tasks and make new discoveries.

Q — How could the clinicians benefit from AI technology?

A — The knowledge and experience from experts all over the world can now be combined and conserved in AI based products. These tools will empower clinicians and give them greater confidence in clinical judgements and diagnosis. They will also provide great support for less experienced clinicians who can take advantage of expert competences as well as develop their own expertise more quickly.

Q — In 2015 ContextVision made a strategic decision to invest heavily in the field of AI. How will this develop the company?

A — Globally, there is an ever-increasing need to facilitate the interpretation of medical images. Our investment enables us to extend our product portfolio beyond image enhancement and visualization. We are now investigating a range of applications, e.g. within ultrasound, radiology and digital pathology.

AI tools will help clinicians work more efficiently; handling more images within a given time and in an even more quality-assured way. We foresee the advent of new image analysis tools that will revolutionize medicine within a not-so-distant future. And ContextVision is ready to take a leading position in this development.

Q — How does ContextVision utilize the potential of AI and machine learning?

A — We are applying AI in areas such as automization, optimization, segmentation and classification. These are used to improve image quality and image analysis - and to facilitate efficient workflow and ease-of-use for clinicians.

Q — What are the technical challenges of practical AI product development?

A — There are three main challenges: robust design and effective implementation of the neural networks, access to relevant ground-truth training data and staying at the forefront of the rapid development.

Q — Why does ContextVision have an advantage over the competition within this field?

A — We invested early in AI technology. Today we have a very active R&D group with much experience and knowledge in this area. With our long experience in developing algorithmic structures, where our GOP technology has many similarities with the machine learning networks, we know how to implement such algorithms on different platforms and make reliable products. Throughout the years we have also built up strong relationships with our OEM customers and established a network of reference sites and clinical references. This gives us fast and accurate feedback on our AI developments.