Dan Witzner Hansen investigates to which extend information from images of eyes can be obtained through computationally tractable techniques and how this information can be used in future applications. His focus is on robust methods for extracting information from the eyes. He investigate how this information can be employed as a part of the next generation of contactless and continuous biometric identification modalities and how it can be used for the general public everyday and out-of-laboratory use. His research covers aspects from computer vision, machine learning, HCI, neuroscience and psychology. Among other things the has contributed to the research in eye-based biometric markers and development of novel and low-cost gaze trackers. These eye trackers have together with novel gaze-based interaction techniques been used for interaction for physically disabled persons with great success.

Publications

High-Accuracy Gaze Estimation for Interpolation-Based Eye-Tracking Methods

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Gaze-Based Controlling a Vehicle

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Towards Wearable Gaze Supported Augmented Cognition

Conclusion and Look to the Future

Eye-based head gestures

Parallax error in the monocular head-mounted eye trackers

EYE GAZE TRACKING

Discussion and Future Directions for Eye Tracker Development

Methodology for designing, implementing and evaluating assistive mobility technology to enable the social inclusion and independence needs of an ageing population

Mobile gaze-based screen interaction in 3D environments

Towards gaze-controlled platform games

Evaluation of a low-cost open-source gaze tracker

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Gaze-controlled driving
**Location-based solutions in the experience center**

**Low-cost gaze interaction: Ready to deliver the promises**

**Low-cost gaze pointing and EMG clicking**

**Eye Tracking**

**Location-based Services using Image Search**

**Location-based solutions in the Experience centre**

**Noise tolerant selection by gaze-controlled pan and zoom in 3D: Proceedings of the 2008 symposium on Eye tracking research & applications**

**Robust registration for change detection**

**Tracking the gaze of birds**

**An improved likelihood model for eye tracking**

**Improving face detection with TOF cameras**

**Robustifying eye interaction**

**Boosting particle filter-based eye tracker performance through adapted likelihood function to reflexions and light changes**
Eye tracking in the wild

**Improved Likelihood Function in Particle-based IR Eye Tracking**

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**Press clippings**

**Bedre eyetracking-algoritmer fra ITU kan give flere guldmedaljer**
Dan Witzner Hansen & Fabricio Batista Narcizo
22/08/2016
1 item of Media coverage

**Bornholmsk professor vil sikre øjets informationer**
Dan Witzner Hansen
15/11/2021
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**Debat: Danmark har fordele i kampen om at blive international AI-frontløber**
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**Hvem kigger med?**
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Ny ITU-professor forsker i øjets informationer
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Projects