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**

**Eye tracking: empirical foundations for a minimal reporting guideline**

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

**Analysis of iris obfuscation: Generalising eye information processes for privacy studies in eye tracking**

**Orangulas: effect of scheduled visual enrichment on behavioral and endocrine aspects of a captive orangutan (Pongo pygmaeus)**

**Label Likelihood Maximisation: Adapting iris segmentation models using domain adaptation**

**The impact of physiological fatigue and gaze behavior on shooting performance in elite and sub-elite biathletes**

**Aiming for the quiet eye in biathlon**

**Eye movement recordings in natural settings**

**Investigation of Quiet Eye in Biathlon**
Using Priors to Compensate Geometrical Problems in Head-Mounted Eye Trackers

Computer-implemented gaze interaction method and apparatus

Variability through the Eyes of the Programmer

System and Method for Eye Tracking

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Synergies between head-mounted displays and head-mounted eye tracking: The trajectory of development and its social consequences
Eye-based head gestures for interaction in the car

Gaze-Based Controlling a Vehicle

Time, Interaction, and Design in Support of a Good Life

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

Investigations of the Role of Gaze in Mixed-Reality Personal Computing

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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In the Eye of the Beholder- A Survey of Models for Eyes and Gaze

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Gaze-controlled driving

Location-based solutions in the experience center

Location-based solutions in the experience centre

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

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Tracking the gaze of birds

An improved likelihood model for eye tracking

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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
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Debat: Danmark har fordele i kampen om at blive international AI-frontløber
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Hvem kigger med
Dan Witzner Hansen & Jari Kickbusch
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Hvem kigger med?
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Ingen fælles standard for datasikkerhed i Danmark
Dan Witzner Hansen
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Kan virtual reality komme til at ligne virkeligheden så meget, at vi ikke kan se forskel?
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Læk sætter fokus på datasikkerhed
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Ny ITU-professor forsker i øjets informationer
Dan Witzner Hansen
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SJÆLENS SPEJL: Afslørende blikke
Dan Witzner Hansen
18/02/2022
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Projects