



# ANDREY KREKHOV

## CONTACT

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Tel.: +49 1781417547

Dr. rer. nat. \_\_\_\_\_

## SHORT BIO

I was born in Russia and moved to Germany as a child. After my M.Sc., I focussed on building Redkea, a spin-off based on my past research. However, I figured out that I miss academia too much, hence I decided to focus on research and graduated with “summa cum laude” as Dr. rer. nat. in December 2019.

## RESEARCH INTERESTS

HCI, Virtual Reality,  
Digital Games, Visualization,  
Visual Perception

## ACQUISITIONS

Software Campus ~100K €  
([www.softwarecampus.de](http://www.softwarecampus.de))

EXIST Funding ~120K €  
(<https://www.exist.de/EN/>)

## LANGUAGES

German (native)  
Russian (native)  
English (business fluent)  
French (DALF)

## PROFESSIONAL PATH

*Since 2020*

**Postdoc** at High Performance Computing Group (Prof. Krüger)  
*University of Duisburg-Essen, Germany*

*2017 - 2019*

**CEO** at Redkea  
*Redkea UG (haftungsbeschränkt), Saarbrücken, Germany*

*2014 - 2019*

**PhD Student** at High Performance Computing Group (Prof. Krüger)  
*University of Duisburg-Essen, Germany*

*2013 - 2015*

**Junior Researcher** at Agents & Simulated Reality Group (Prof. Slusallek)  
*DFKI GmbH, Saarbrücken, Germany*

## EDUCATION

*2011 - 2012*

M.Sc. w. honors degree in Computer Science  
*Saarland University, Saarbrücken, Germany*

*2007 - 2011*

B.Sc. in Computer Science  
*Saarland University, Saarbrücken, Germany*

*2007*

Abitur (higher education entrance qualification)  
*Graf-Münster-Gymnasium, Bayreuth, Germany*

## CERTIFICATES

Innovation Management ..... DATEV  
Project Management ..... Siemens  
Scenario Planning ..... Bosch  
Intercultural Awareness ..... SAP  
Media and Communication ..... Software AG  
Leadership Simulation (AVALON) ..... Bosch

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## CURRENT RESEARCH

I am currently working on the following topics:

### VR Locomotion:

I am co-authoring “*The Digital Gaming Handbook*”. In particular, I focus on various locomotion approaches in virtual reality games.

### Spectatorship in VR:

I work on novel and engaging ways to lower the HMD-induced barrier between the actor (e.g., player) and the spectating audience.

### Visualization of Emotions:

I am investigating the expressiveness and interpolation of emojis in digital communication.

### Visualization of Bouldering:

I am applying deep learning to create meaningful visualizations for climbing based on single camera video captures.

## LIST OF SELECTED PUBLICATIONS

**A. Krekhov, K. Emmerich, S. Cmentowski, and J. Krüger:**

Beyond Human: Animals as an Escape from Stereotype Avatars in Virtual Reality Games.

*CHI PLAY 2019: Proceedings of the ACM SIGCHI Annual Symposium on Computer-human Interaction in Play.*

**A. Krekhov, A. Wasch, S. Cmentowski, and J. Krüger:**

Deadeye Visualization Revisited: Investigation of Preattentiveness and Applicability in Virtual Environments.

*IEEE VIS 2019, IEEE Transactions on Visualization and Computer Graphics.*

**A. Krekhov, M. Michalski, and J. Krüger:**

Integrating Visualization Literacy into Computer Graphics Education Using the Example of Dear Data. *EUROGRAPHICS 2019.*

**A. Krekhov, S. Cmentowski, and J. Krüger**

The Illusion of Animal Body Ownership and Its Potential for Virtual Reality Games. *IEEE Conference on Games 2019.*

**A. Krekhov and J. Krüger:**

Deadeye: A Novel Preattentive Visualization Technique Based on Dichoptic Presentation. **Best Paper Award.**

*IEEE VIS 2018, IEEE Transactions on Visualization and Computer Graphics.*

**A. Krekhov, K. Emmerich, M. Masuch, S. Cmentowski, and J. Krüger:**

GulliVR: A walking-oriented technique for navigation in virtual reality games based on virtual body resizing. **Honourable Mention.**

*CHI PLAY 2018: Proceedings of the ACM SIGCHI Annual Symposium on Computer-human Interaction in Play.*

**A. Krekhov, K. Emmerich, P. Bergmann, S. Cmentowski, and J. Krüger**

Self-Transforming Controllers for Virtual Reality First Person Shooters.

*CHI PLAY 2017: Proceedings of the ACM SIGCHI Annual Symposium on Computer-human Interaction in Play.*

**A. Krekhov, K. Emmerich, M. Babinski, and J. Krüger**

Gestures From the Point of View of an Audience: Toward Anticipatable Interaction of Presenters with 3D Content.

*SIGCHI 2017: ACM CHI Conference on Human Factors in Computing Systems.*

**A. Krekhov, J. Grüniger, R. Schlönvoigt, and J. Krüger:**

Towards in Situ Visualization of Extreme Scale, Agent-Based, Worldwide Disease Spreading Simulations.

*SIGGRAPH Asia 2015: Visualization in High-Performance Computing.*