# **Curriculum Vitae**

## Personal Information

Personal Inforr	nation
Name	Prof. Dr. <b>Jürgen Bernard</b>
Address	Seestrasse 152, 8700 Küsnacht, Switzerland
Born	January 21, 1981, Lohr (Bavaria), Germany
Nationality	German
Citizenship	Switzerland
Family	Wife: Carina Children: Maximilian (4), Marie (1)
Position	Assistant Professor, Group Head
Affiliation	University of Zurich, Department of Informatics Digital Society Initiative
Group	Interactive Visual Data Analysis Group
Contact	ph: +41-79-3098079 email: mail@juergen-bernard.de web: https://www.juergen-bernard.de orcid: 0000-0001-8741-9709

## **Main Research Focus**

Information Visualization (Vis), Visual Analytics (VA), Interactive Machine Learning (IML)

## Education

2019	<b>Zertifikat Hochschullehre</b> Deutsche Gesellschaft für Hochschuldidaktik, Germany Higher Education Teaching Certificate, 3 years with modules
2015	<b>PhD in Computer Science</b> TU Darmstadt / Fraunhofer IGD, Germany Dissertation: Exploratory Search in Time-Oriented Primary Data <i>Grade: 1 – summa cum laude</i>
2009	Diplom (MSc) in Computer Science TU Darmstadt, Germany Grade: 1 – sehr gut
2000	Abitur/Matura (German High School Degree) Franz-Ludwig von Erthal Gymnasium, Lohr am Main, Bavaria, Germany

# Jürgen Bernard

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# Work Experience

09/2020-present	Assistant Professor (non-tenure) University of Zurich (UZH), Computer Science, Zurich, Switzerland Focus: Interacting with Data
09/2020-present	<b>Group Leader</b> Interactive Visual Data Analysis (IVDA) Group, at UZH
09/2020-present	<b>DSI Professor</b> Digital Society Initiative (DSI), University of Zurich Focus: Digital Transformation
06/2019-12/2020	<b>Postdoctoral Research Fellow</b> University of British Columbia (UBC), Department of Computer Science (with Prof. Dr. Tamara Munzner), Vancouver, Canada Focus: Interactive Machine Learning, Design Studies, Health Data Analytics
01/2016 - 12/2017	Self-Employed Data Scientist Design and Development of Visual Analytics Solutions, Darmstadt, Germany
02/2016-05/2019	<b>Postdoctoral Research Fellow</b> Interactive Graphics Systems Group (GRIS), TU Darmstadt, Germany Lead: Visual-Interactive Machine Learning group
01/2012-01/2016	Researcher (PhD Student) Fraunhofer Institute for Computer Graphics Research IGD, Germany Focus: Exploratory Search, Time Series Analysis, User-centered Design
01/2010-12/2011	<b>PhD Student</b> TU Darmstadt, Germany
01/2007-12/2009	Research Student TU Darmstadt, Germany
07/2002-10/2008	Working Student, Software Engineer (10weeks/year) Bosch AG, Lohr am Main, Germany
05/2001 - 12/2005	Self-Employed, Startup Web Hosting Service, Darmstadt, Germany
09/2000-06/2001	Civilian Service (Male Nurse) Geriatric Nursing Center in Lohr am Main, Germany
03/1999-07/2007	Self-Employed, Startup Vinyl Record Store, Lohr am Main, Germany
07/1998-09/2001	Working Student (5weeks/year) Mannesmann Rexroth AG, Lohr am Main, Germany

# Jürgen Bernard

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## **Professional Services**

Memberships	Faculty member of the Digital Socienty Initiative (DSI), Zürich (since $09/2020$ )
	ACM member (since 2021)
	IEEE member (since 2013)
	EG member (2017-2019, since 2022)
	DHV member (since 2018)
	GI member (since 2020)
	GI-VIS member (since 2021)
Organization	$1 \times General Chair$ of the <b>VAHC</b> (IEEE/ACM VIS): Workshop on Visual Analytics in Health Care (2023)
	$2 \times Steering \ Committee \ of the VAHC (IEEE/ACM VIS): Workshop on Visual Analytics in Health Care (2021, 2023)$
	$4 \times Organizing \ Committee \ of the VAHC (IEEE/ACM VIS): Workshop on Visual Analytics in Health Care (2015, 2017, 2019, 2021)$
	$3 \times Organizing \ Committee$ of the <b>EuroVis</b> (Eurographics, EG): Conference on Visualization, Co-located Workshops Chair (2021, 2022, 2023)
	$1 \times Steering Committee$ of the <b>EuroVA</b> (Eurographics, EG): Workshop on Visual Analytics (2023)
	$2 \times Organizing \ Committee \ of the EuroVA (Eurographics, EG): Workshop on Visual Analytics, Co-Organizer (2021, 2022)$
	$2 \times Guest$ -Editor: Special Issue of <b>EuroVA</b> in The Computers and Graphics Journal (C&G) (2021, 2022)
Committees	<ul> <li>34 × Program Committee</li> <li>Main conferences: IEEE VIS Visualization &amp; Visual Analytics (2022), IE- EE VAST Visual Analytics Science and Technology (2018, 2019, 2020), EG</li> <li>EuroVis Conference on Visualization (2021, 2022, 2023), VMV EG Symposium on Vision, Modeling, and Visualization (2018, 2019, 2020, 2021, 2022)</li> <li>IVAPP EG Conference on Information Visualization Theory and Applications (2017, 2018) IEEE VIS Conference on Advances in Visualization and Visual Analytics, Short Papers (2020, 2021), EG EuroVis Conference on Visualization, Short Papers (2017, 2018, 2019, 2020)</li> <li>Other conferences, symposia, and workshops: EuroVA EG EuroVis Workshop on Visual Analytics (2023), VAHC IEEE VIS Workshop on Visual Analytics in Health Care (2015, 2017, 2019, 2021), BELIV IEEE VIS Workshop on Evaluation and Beyond - Methodological Approaches for Vis (2018, 2020, 2022), VDS ACM KDD/IEEE VIS Visualization in Data Science (VDS)</li> </ul>

	(2022), <b>VISxAI</b> IEEE VIS Workshop on Visualization for AI Explainability (2018, 2019, 2021) <b>BigVIS</b> EDBT/ICDT Workshop on Big Data Visual Ex- ploration and Analytics (2023) <b>TIME</b> LIPIcs International Symposium on Temporal Representation and Reasoning (2021)
Peer Reviewing	Overall, more than 100 reviews
	Grant proposals: DFG (Germany), FWF (Austria), DSI (UZH, Zürich)
	Visualization: IEEE TVCG Journal, EG CGF Journal, EG CGF Journal (S.T.A.R), Elsevier C&G Journal, ACM TOG Journal, SAGE IV Journal, IEEE VIS, IEEE VIS (short), IEEE InfoVis, IEEE InfoVis (short), IEEE VAST, EG EuroVis, EG EuroVis (short) EG EuroVis (S.T.A.R), EG EuroVis (short), EG VMV, IEEE PacificVis, IEEE/ACM VAHC, IEEE VIS BELIV, IEEE VIS VISxAI, IEEE VIS VISReg, IEEE VIS VDS, EG IVAPP, PG Pacific Graphics, EG PG&V
	<i>Other areas:</i> ACM TiiS Journal, ACM CHI, IEEE Access Journal, MDPI Algorithms Journal, ACM Multimedia Journal, Neurocomputing Journal, Springer IJoDL Journal, LIPIS TIME
Awards	
Personal	<b>EuroGraphics Young Researcher Award</b> at EuroGraphics (EG), Reims, FR, 2022.
	<b>EuroVis Young Researcher Award</b> EuroVis (EG), Zurich, CH, 2021.
	Dirk Bartz Prize Visual Computing in Medicine at Eurographics (EG), Lyon, France, 2017
	Hugo-Geiger Prize Excellent Dissertations by Fraunhofer Gesellschaft, München, Germany, 2016
	<b>GI Prize for Excellent Dissertations Nominee</b> by Gesellschaft für Informatik (GI), Dagstuhl, Germany, 2016
	<b>Best Diploma Thesis Award</b> by Fraunhofer IGD, TU Darmstadt, Darmstadt, Germany, 2010
Papers	Best Paper Award: IRVINE – A Design Study on Analyzing Correlation Pat- terns of Electrical Engines at IEEE VIS, New Orleans, USA, 2021.
	Best Paper Award: LFPeers: Temporal Similarity Search in Covid-19 Data at EuroVA, Zurich, CH, 2021.
	Learning and Teaching in Co-Adaptive Guidance for Mixed-Initiative Visual Analytics at EuroVA, Norrköping, SWE, 2020.

	Honorable Mention for Best Paper: Visual Analysis of Degree-of-Interest Functions to Support Selection Strategies for Instance Labeling at EuroVA, Porto, POR, 2019.
	Honorable Mention for Best Paper: Personalized Visual-Interactive Music Classification at EuroVA, Brno, CZR, 2018.
	Best Paper Award: Visual-Interactive Similarity Search for Complex Objects by Example of Soccer Player Analysis at IVAPP/VISGRAPP, Porto, POR, 2017.
	Honorable Mention for Best Paper: Visual-Interactive Segmentation of Mul- tivariate Time Series at EuroVA, Groningen, NED, 2016.
	Best Paper Award: Visual Access to an Agent-based Simulation Model to Support Political Decision Making at i-KNOW, Graz, AUT, 2014.
	Best Paper Award: Content-based layouts for exploratory metadata search in scientific research data at JCDL, Washington, USA, 2012.
Contribution	Replicability Stamp Award for a TVCG Journal Article with a complete open-source implementation
	4th most-contributing Author of EuroVA all Time at the 10th Anniv. of EuroVA 2019 – for 8 Publications (2010–2019)
	$2 \times Best$ Industrial Project Award (2014, 2016) Fraunhofer IGD, Darmstadt, GER. for outstanding application-driven research in industry projects.
	$2 \times Best Paper Award (2010, 2016)$ Fraunhofer IGD, Darmstadt, GER. for outstanding applied research papers published in the last year.
	$3 \times$ Honorable Mention for Best Paper Award (2011, 2014, 2019) Fraunhofer IGD, Darmstadt, GER. for outstanding applied research papers published in the last year.
Teaching	Datenlotsen Price – Best Student Thesis of Christian Ritter (Supervision) at TU Darmstadt, GER, 2018
Participation	Awarded for the Heidelberg Laureate Forum (HLT) Heidelberg Laureate Forum, Heidelberg, GER, 2017
	Awarded for the Global Young Researchs Summit (GYSS) Global Young Researchs Summit, Singapore, 2016

# Funding

Univ. of Zurich	Principal Investigator in <b>ORD-Xplore</b> : Finding Commonalities Across Heterogeneous ORD Collections. swissuniversities, Switzerland, 01/2023–06/2024 (150,000 CHF)
	Principal Investigator in Roche: Interactive Particle Root Cause Analysis. Roche AG, Rotkreuz, Switzerland, 11/2022–12/2023 (10,000 CHF)
	Principal Investigator in <b>IVIE-Docs</b> : Interactive Clustering and Labeling of Heterogeneous Text Document Collections. Acodis AG, Winterthur, Switzerland, 03/2022–11/2022 (5,000 CHF)
	Principal Investigator in IAS: Interaktive Analyse von Sensordaten. BMW AG, München, Germany, 07/2021–12/2022 (94,600 €)
	Participating Researcher in <b>DSI-Libraries</b> : Expl. of Open Research Data. Digital Society Initiative (DSI), Switzerland, 01/2023–12/2023 (10,000 CHF)
	Participating Researcher in <b>DSI-Health</b> : Creating an application for remote monitoring of patient/athlete activity through collaborative design. Digital Society Initiative (DSI), Switzerland, 01/2023-12/2023 (10,000 CHF)
	<i>Fully-funded PhD position</i> in <b>xAI4R</b> : xAI for Item Rankings. Digital Society Initiative (DSI), Switzerland, 09/2023–08/2027 (188,160 CHF). Ibrahim al Hazwani started 09/2022
UBC Vancouver	Awarded Scholarship by <b>DSI</b> : Post-doctoral Matching Fund Application. Data Science Initiative, University of British Columbia (UBC), Canada. with Prof. Tamara Munzner(UBC), 07/2021–06/2022 (40,000 CAD)
TU Darmstadt	Awarded Scholarship by <b>DAAD</b> : German Post-Doctoral Exchange (Canada). Deutscher Akademischer Austauschdienst, Bonn, Germany. with Prof. Tamara Munzner(UBC), $07/2021-06/2022$ (19,800 $\in$ )
	Awarded Exchange Program by <b>TU Graz &amp; TU Darmstadt</b> : Collaborative Exchange of Excellence, between TU Graz and TU Darmstadt (to Austria). with Prof. Tobias Schreck (TU Graz), $07/2021-06/2022$ (10,000 $\in$ )
	Participating Researcher in <b>VISSECT</b> : Visual-Interactive Segmentation and Labeling of Multivariate Time Series. Project No. I 2850. Deutsche Forschungsgemeinschaft, Germany, 2016–2019 (742,000 $\in$ )
	Participating Researcher in <b>Progether</b> : Your Prostate Cancer Network. Patient-centered Health Platform. Industry project funded by Progether, Oslo, Norway, 2015–2016 ( $30,000 \in$ )
	Participating Researcher in <b>UKE-II</b> : Visual-Interactive Stratification of Patient Cohorts. Industrial research project funded by Universitätsklinikum Hamburg Eppendorf (UKE), Germany, 2015–2016 (30,000 $\in$ )

Participating Researcher in **UKE**: Visual-Interactive Analysis of Cancer Patient Histories. Industrial research project funded by funded by Universitätsklinikum Hamburg Eppendorf (UKE), Germany, 2013–2014 (30,000  $\in$ )

Participating Researcher in **BT**: Telecommunication Network and Big Data Analysis. Industrial research project funded by British Telecom (BT), Ipswich, United Kingdom, 2013–2015 ( $30,000 \in$ )

Participating Researcher in VisInfo: Visual Access to Research Data. Funded by Leibnitz Gemeinschaft/Leibniz Foundation (WGL), Germany, 2010–2012 (600,000 €)

#### Invited Speaker Talks (no paper presentations)

2023*	Interactive Visual Data Analysis Digital Society Initiative (DSI), Zurich, CH
2022	<b>Data Analysis - Challenges and Opportunities for IVDA</b> Robotics and Perception Group, Zurich, CH
2022	Human-Centered Data Analysis in Finance Forschungsgruppe Financial Economics, Zurich, CH
2022	Interaktion und Raum: DSI-Perspektiven Kolloquium des UFSP Sprache und Raum, Zurich, CH
2022	Interacting with Data University of Zurich (UZH), Inaugural Lecture, Zurich, CH
2021	<b>Problem-Driven and Human-Centered Visual Analytics</b> University of Rostock, GER
2021	Interactive Data Science with the Human-in-the-Loop BMW, Munich, GER
2020	Interactive Visual Data Analysis University of Zurich, CH
2019	Enhancing Interactive Machine Learning Johannes Kepler University Linz, AUT
2019	<b>Enhancing Human Centered and Interactive Machine Learning</b> Aarhus University, Denmark
2019	Enhancing Human-Centered Machine Learning with VA Visual Computing Forum, University of Bergen, Norway
2019	<b>Enhancing Interactive Data Science with Visual Analytics</b> University of Rostock, GER
2019	<b>Visual-Interactive Data Science</b> University of Zurich, CH

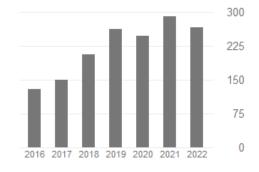
2018	<b>Transparent Machine Learning with Visual Analytics</b> VIS in Practice, IEEE VIS, Berlin, GER
2018	<b>Visual-Interactive Machine Learning</b> TU Graz, AUT
2018	Visual-Interactive Data Science City, University of London, UK
2018	<b>Visual-Interactive Machine Learning</b> University of Konstanz, GER
2018	Interactive Visual Data Science – Solutions to Data Labeling University of Trier, GER
2018	<b>Data Visualization and Visual Analytics</b> Graduate School Computational Engineering (CE), TU Darmstadt, GER
2018	Machine Learning with the User-in-the-Loop VRVis, Center for Virtual Reality and Visualization, Vienna, AUT
2018	Visual-Interactive Machine Learning for Time-Oriented Data University of Konstanz, GER
2017	Visual Analytics of Clinical Healthcare Data for Prostate Cancer IEEE VIS, Tutorial, Phoenix, AZ, USA
2017	Data Quality, a Remaining Challenge IEEE VIS, Tutorial Phoenix, AZ, USA
2017	Visual Computing for Big Data Analysis in Prostate Cancer Dirk Bartz Price Talk, Eurographics, Lyon, France
2017	<b>Exploratory Search in Time-Oriented Data</b> Vienna University of Technology, AUT
2017	<b>Visual Analytics meets Machine Learning</b> St. Poelten University of Applied Sciences, AUT
2016	Visual Analytics meets Human Motion Analysis University of Bonn, GER
2016	<b>Explorative Suche in Zeitbasierten Prim‰rdaten</b> Gesellschaft f,r Informatik (GI), Dagstuhl, GER
2015	<b>Exploratory Search in Time-Oriented Primary Data</b> PhD Defense, University of Darmstadt, GER
2015	Relation Seeking between Time Series Data and Multivariate Data Artificial Intelligence (AI), Cambridge, United Kingdom
2013	Visual Analysis of Time-oriented Data British Telecom, Ipswich, United Kingdom

2013	Visual Analysis of Time-oriented Data Artificial Intelligence (AI), Cambridge, United Kingdom
2012	<b>Content-based vs. Metadata-based Search and Analysis</b> Research Worksop, University of Konstanz, GER
2011	Visual Access to Time-Oriented Scientific Primary Data Deutsches Klimarechenzentrum (DKRZ), Hamburg, GER
2010	Visualization and Search Approaches for Time-Oriented Scientific Primary Data DataCite Workshop, Hannover, GER

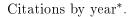
# **Publications and Research Network**

## **Publication Statistics**

Journal	<b>27</b> peer-reviewed journal articles.
Conference	26 peer-reviewed conference papers.
Workshop	<b>30</b> peer-reviewed workshop papers.
Editor	<b>2</b> proceedings/special issues editor.
Talks	<b>37</b> invited talks (no conferences).
No. of citations	<b>1918</b> overall, <b>1280</b> since $2018^*$ .
h-index	<b>24</b> overall, <b>20</b> since $2018^*$ .
i10-index	$47$ overall, $34$ since $2018^*$ .



\* based on Google scholar (Jan 05, 2023)



### **Five Most Important Publications**

Copies of papers most representative for my work can be found at: https://juergen-bernard.de

[J12] VIAL: a unified process for visual interactive labeling
 Bernard, J., Zeppelzauer, M., Sedlmair, M., Aigner, W. The Visual Computer (TVCJ) pp. 1189-1207, (2018). doi: 10.1007/s00371-018-1500-3 81 citations

This TVCJ Journal publication proposes VIAL methodology for interactive data labeling which in my community is deeply connected to my name. Together with my collaborators (M. Sedlmair, M. Zeppelzauer), we characterize human-machine collaboration for data labeling challenges in six steps forming an iteration of the incremental data labeling process.

[J11] Comparing Visual-Interactive Labeling with Active Learning: An Experimental Study Bernard, J., Hutter, M., Zeppelzauer, M., Fellner, D., Sedlmair, M. *IEEE Transactions* on Visualization and Computer Graphics (TCVG) pp. 298-308, (2018). doi: 10.1109/TV-CG.2017.2744818 128 citations

This TVCG Journal publication is a pioneer work for interactive data labeling, as an extension to classical active learning. The publication opened the way for data labeling approaches in the visualization community and was one important milestone for me and my collaborators (M. Sedlmair, M. Zeppelzauer) to propose the VIAL (Visual-Interactive Labeling Methodology).

[J04] MotionExplorer: Exploratory Search in Human Motion Capture Data Bernard, J., Wilhelm, N., Kr,ger, B., May, T., Schreck, T., Kohlhammer, J. IEEE Transactions on Visualization and Computer Graphics (TVCG) pp. 2257-2266, (2013). doi: 10.1109/TVCG.2013.178. 109 citations

Motion Explorer is one of my first collaborative and interdisciplinary design studies, my first interactive data analysis system for the search and exploration of human motion capture data, and one of my primary use cases used in my PhD Thesis. Also the Motion Explorer is my first publication in the TVCG Journal, the top reference for Visualization researchers.

[P08] Content-based layouts for exploratory metadata search in scientific research data Bernard, J., Ruppert, T., Scherer, M., Kohlhammer, J., Schreck, T. ACM/IEEE-CS Conference on Digital Libraries, ACM pp. 139-148, (2012). doi: 10.1145/2232817.2232844. Best Paper Award at JCDL. 37 citations

The paper represents my first best paper award entry, here on open research data in the digital libraries (community. The main contribution is an interactive visual technique to summarize and explore large collections of open research data. Exploratory navigation of users in the data space to discover interesting relationships between data items.

[J01] Visual Cluster Analysis of Trajectory Data with Interactive Kohonen Maps Schreck, T., Bernard, J., von Landesberger, T., Kohlhammer, J. Information Visualization, Palgrave Macmillan pp. 14-29, (2009). doi: 10.1057/ivs.2008.29. 228 citations

The paper presents the intellectual contributions of my Master Thesis that made it into a Class A Journal article. We present a visual analytics white-box approach for a clustering neural network. Whitebox integration is provided for the entire learning process from initialization, to parameterization, to training observation, to result analysis, to re-training and iterative refinement.

\* based on Google scholar (Jan 05, 2023)

### **Co-Authors** (selection)

Professors	<ul> <li>Kohlhammer, J., Schreck, T., Sedlmair, M., Zeppelzauer, M., Keim, D.,</li> <li>Fellner, D., von Landesberger, T., Schlomm, T., Munzner, T., Kuijper, A.,</li> <li>Miksch, S., Krüger, B., Adam, M., Tennstedt, P., Loeb, S., Tilki, D., Sens, I.,</li> <li>Andrews, K., Sourin, A., Ruddle, R., Schumann, H., Aigner, W., Behrisch,</li> <li>M., Spott, M., Bustos, B., Beck, F., Huang, E., Kraaij, W., Neerincx, M.,</li> <li>Streit, M., Schmid, U., Klein, R., Preim, B., Fischbach, K.,</li> </ul>
PhD	<ul> <li>May, T., Ruppert, T., Steiger, M., Scherer, M., 8 El-Assady, M., Bremm, S.,</li> <li>Vögele, A., Bögl, M., Mittelstädt, S., Bors, C., Gschwandtner, T., Koepler, O.,</li> <li>Chegini, M., Eirich, J., Röhlig, M., König-Langlo, G., Sieger, R., Jäckle, D.,</li> <li>Brase, J., Strobelt, H., Alsallakh, B., Eichner, C., Altenhofen, C., Agarwal,</li> <li>S., Stoffel, F., Shao, L., Zurloh, C., Koldijk, S., Waldner, M., Wanner, F.,</li> <li>Fischer, K., Hinterreiter, A., Wang, Y., Nazemi, K., Widmer, S., Davey, J.,</li> <li>Liu, Z., Staab, M., Runnwerth, M., Sacha, D., Daberkow, D., Wesarg, S.,</li> </ul>
BSc, MSc	<ul> <li>Hutter, M., Lücke-Tieke, H., Sessler, D., Bannach, A., Wilhelm, N., Sperrle, F., Schader, P., Lehmann, M., Pehrke, D., Sevastjanova, R., Schmid, J., Dobermann, E., Ulmer, A., Ritter, C., Hazwani, I., Thum, S., Cibulski, L., Jentner, W., Jeitler, A., Müller, M., Burmeister, J., Beckmann, R., Sachdeva, M., Blaga, C., Schäfer, H., Peiris, Y., Grossmann, N., Goroll, O., Retz, R., Chegini, F., Pfeifer, H., Reinemuth, H., Graner, L.,</li> </ul>
Students	Barth, C.,

# **Teaching Experience**

### Courses

Univ. of Zurich	$2 \times$ Interactive Visual Data Analysis (Lecture 3ECTS, Exercise 3ECTS, 2021-2022, fall term), main organizer and teacher, MSc-level (approx. 120 students)	
	$2 \times$ Fundamentals of People-Oriented Computing (Lecture, ECTS, 2021-2022, fall term), co-teacher, supervisor, MSc-level (approx. 10 students)	
	$2 \times$ Interactive Visual Data Analysis (Seminar, 3ECTS, 2021-2022, spring term), main organizer, teacher, and supervisor, BSc/MSc-level (24 students)	
	$2 \times Digital$ and Mobile Health (Seminar, 3ECTS, 2021-2022, spring term), main organizer, teacher, and supervisor, MSc/PhD-level (24 students)	
	$5 \times Masters Project$ , (Lab Course, 15ECTS, 2020-2022, every term), supervisor, MSc-level practical lab course (11 students in total)	
	$1 \times Independent Study,$ (Lab Course, 3/6/9ECTS, 2022), supervisor, MSc-level (3 students)	
	$1 \times Masters Basismodul$ , (Lab Course, 6ECTS, 2021), supervisor, MSc-level (1 student)	
TU Darmstadt	$2 \times User$ -Centered Design in Visual Computing (Lecture, 3ECTS, SS 2017, SS 2018), main organizer and teacher, MSc-level (approx. 100 students)	
	$3 \times$ Information Visualization and Visual Analytics (Exercise, 3ECTS, WS 2011/12, WS 2016/17, WS 2018/19), co-organizer and teacher, MSc-level (approx. 80 students)	
	$16 \times Visual Computing Lab$ (Lab Course, 6ECTS, WS2010/11–SS 2019, every term), supervisor, MSc-level practical lab course (27 students in total, 13 students with joint publication afterwards)	
	$9 \times Visual Analytics Seminar$ (Seminar, 3ECTS, SS2010–SS2018, summer term), supervisor, MSc-level, (ca. 10 students in total)	
Hands-on Student Supervision (* publication(s), including student co-authorship)		

- PhD (4)Ibrahim al Hazwani (ongoing) ★, Gabriela Morgenshtern (ongoing) ★, Ma-<br/>dhav Sachdeva (ongoing) ★, Clara-Maria Barth (upcoming) ★
- BSc, MSc (14) Andrea Meier (MSc), Maximilian Tornov(MSc), Yasara Peiris(MSc) ★, Raphael Beckmann(MSc) ★, Yves Rutishauser(MSc), Jenny Schmid(MSc)
  ★, Markus Lehmann(MSc) ★, Heiko Reinemuth(MSc), Maximilian Müller(MSc), Christian Ritter(BSc) ★, David Sessler(BSc) ★, Eduard Dobermann(MSc) ★, David Sessler(MSc), Alex Ulmer(MSc) ★

- Labs Studies (35) Didem Durukan, Clara-Marina Barth ★, Simon Hurwitz, Andrea Meier ★, Eduard Čuba ★, Yasara Peiris ★, Kevin Streiter, Clara-Marina Barth ★, Dominique Hässig, Philipp Schader ★, Markus Lehmann ★, Martin M,ller ★, Maximilian Mäller, Heiko Reinemuth ★, Hendrik Pfeifer ★, Faris Abraha, Simon Schimmels, Hendrik L.-Tieke ★, Benedict Jahn, David Sessler ★, Aaron Hochl‰nder, Lukas Graner ★, Christian Ritter ★, Robert Heimbach, Eduard Dobermann ★, Benedict Jahn, Saskia Koldijk ★, Peter Sheldrik, Tobias Stoll, Oliver Goroll ★, Alex Ulmer ★, Nils Wilhelm ★, Jan Riemann, Martin Weigel, Michael Stoica,
- Student Workers (16) Shreedhar Govil, Madhav Sachdeva ★, Clara-Maria Barth ★, Jenny Schmid ★, Cristian-Ioan Blaga ★, Vincent Jung, Raphael Beckmann ★, Christian Ritter ★, Marco Hutter ★, Eduard Dobermann ★, David Sessler ★, Alex Brakowski, Florian Ammon, Habib Saissi, Annika Beifiler, Abdulghani Alshadadi,

#### **Professional Development: Higher Education Teaching Certificate**

2019	Teaching Portfolio and Reflection on Teaching Written Report (99 pages, available on request), Darmstadt, Germany
2019	Expert-Guided Teaching Project Fraunhofer IGD and Campus Lichtwiese, Darmstadt, Germany
2018	<b>Reflection on Teaching Workshops and Transfer to own Teaching</b> Written Report
2018	<b>Teaching International Students</b> HDA Darmstadt, Germany
2018	Visualization Techniques with Flip Charts Ingenium (Young Researchers at TU Darmstadt) Darmstadt, Germany
2018	<b>Competence-Oriented Teaching</b> HDA Darmstadt, Germany
2018	Motivating Students in Academia HDA Darmstadt, Germany
2018	Supervision of Student Theses HDA Darmstadt, Germany
2018	Guided Reflection on own Teaching Philosophy HDA Darmstadt, Germany
2018	<b>Expert Evaluation of own Teaching Methods II</b> TU Darmstadt, Germany
2017	<b>Expert Evaluation of own Teaching Methods I</b> TU Darmstadt, Germany

2017	<b>Cooperative Advice Coaching in Teaching Practice</b> HDA Darmstadt, Germany
2017	Teaching Work Shadowing and Evaluation HDA Darmstadt, Germany
2017	Peer Feedback Training with Online Scenarios HDA Darmstadt, Germany
2017	Enhancing Students towards Self-Organized Learning and Working HDA Darmstadt, Germany
2017	Effective Teaching – Basics PII HDA Darmstadt, Germany
2016	Effective Teaching – Basics P1 HDA Darmstadt, Germany