

Josua Krause

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Personal Information

date of birth: January 18th, 1988

place of birth: Isny im Allgäu

nationality: Germany

Education

University, NYU Tandon School of Engineering

New York, USA – 2013 - (planned) 2018

PhD in Computer Science

thesis: “Using Visual Analytics to Explain Black-box Machine Learning”

supervised by: Prof. Dr. Enrico Bertini

University, University of Konstanz

Konstanz, Germany – 2011 - 2014

Master of Science in Computer Science

thesis: “Graph Comics: Interactive Staging for Exploring Dynamic Graphs”

supervised by: Prof. Dr. Oliver Deussen, Prof. Dr. Enrico Bertini

University, University of Konstanz

Konstanz, Germany – 2008 - 2011

Bachelor of Science in Information Engineering

thesis: “Annotation of Changes in Evolving Graphs”

supervised by: Prof. Dr. Oliver Deussen, Prof. Dr. Ulrik Brandes

Employments

Pacific Northwest National Laboratory

New York, USA – 2016 and 2017
summer internship

IBM T. J. Watson Research Center

New York, USA – 2014 and 2015
summer internships

NYU Tandon School of Engineering

New York, USA – 2013 - (planned) 2018
research assistant

teaching assistant in courses:

- Foundations of Data Science 2017
- Information Visualization 2015 - 2016

University of Konstanz

Konstanz, Germany – 2009 - 2013
research assistant

University of Konstanz

Konstanz, Germany – 2011 - 2012
teaching assistant in courses:

- Concepts of Computer Science (Bachelor)
- Concepts of Programming (Bachelor)

Research

2017

Josua Krause, Aritra Dasgupta, Jordan Swartz, Yindalon Aphinyanaphongs, Enrico Bertini: **“A Workflow for Visual Diagnostics of Binary Classifiers using Instance-Level Explanations”**,

IEEE Transactions on Visualization and Computer Graphics (VAST) 2017

Paolo Tamagnini, **Josua Krause**, Aritra Dasgupta, Enrico Bertini: **“Interpreting Black-Box Classifiers Using Instance-Level Visual Explanations”**,

Workshop on Human-In-the-Loop Data Analytics (HILDA) 2017

2016

Josua Krause, Aritra Dasgupta, Enrico Bertini: **“Explanatory Visual Analytics for Enhancing Human Interpretability of Machine Learning Models”**,

Visualization in Data Science (VDS at IEEE VIS) 2016

Josua Krause, Adam Perer, Kenney Ng: **“Interacting with Predictions: Visual Inspection of Black-box Machine Learning Models”**,

Interactive Data Exploration and Analytics (IDEA) 2016

Josua Krause, Adam Perer, Enrico Bertini: **“Using Visual Analytics to Interpret Predictive Machine Learning Models”**,

ICML Workshop on Human Interpretability in Machine Learning (WHI) 2016

Josua Krause, Aritra Dasgupta, Jean-Daniel Fekete, Enrico Bertini: **“SeekAView: An Intelligent Dimensionality Reduction Strategy for Navigating HD Data Spaces”**,

IEEE Symposium on Large Data Analysis and Visualization (LDAV) 2016

Anshul Vikram Pandey, **Josua Krause**, Cristian Felix, Jeremy Boy, and Enrico Bertini: **“Towards Understanding Human Similarity Perception in the Analysis of Large Sets of Scatter Plots”** (Honorable Mention),

ACM Conference on Human Factors in Computing Systems (CHI) 2016

Josua Krause, Adam Perer, and Kenney Ng: **“Interacting with Predictions: Visual Inspection of Black-box Machine Learning Models”**,

ACM Conference on Human Factors in Computing Systems (CHI) 2016

2015

Josua Krause, Adam Perer, and Harry Stavropoulos: “Supporting Iterative Cohort Construction with Visual Temporal Queries”,

IEEE Transactions on Visualization and Computer Graphics (TVCG - VAST), Vol. 22, No. 1, pp. 1077-2626, 2015

Josua Krause, Narges Razavian, Enrico Bertini, and David Sontag: “Visual Exploration of Temporal Data in Electronic Medical Records”,

Poster Session I of the AMIA Annual Symposium; Poster, 2015

Josua Krause and Adam Perer: “Data-Driven Cohort Construction with Interactive Visual Queries”,

2015 Workshop on Visual Analytics in Health Care; Demo, 2015

Josua Krause, Narges Razavian, Enrico Bertini, and David Sontag: “Visual Inspection of Longitudinal Electronic Medical Records”,

2015 Workshop on Visual Analytics in Health Care; Demo, 2015

2014

Josua Krause, Adam Perer, and Enrico Bertini: “INFUSE: Interactive Feature Selection for Predictive Modeling of High Dimensional Data”,

IEEE Transactions on Visualization and Computer Graphics (TVCG – VAST), Vol. 20, No. 1, pp. 1614-1623, 2014

2012

Josua Krause, Marc Spicker, Leonard Wörteler, Matthias Schäfer, Leishi Zhang, and Hendrik Strobelt: “Interactive Visualization for Real-time Public Transport Journey Planning”,

Proceedings of SIGRAD 2012 – Interactive Visual Analysis of Data, pp. 95-98, 2012

Research interests

Visual Analytics, Machine Learning, Information Visualization, Predictive Modeling, Human-Computer Interaction

Committee Memberships

Workshop on Visual Analytics in Healthcare (VAHC) 2017