

Josua Krause

+1 917 525 0807

josua.krause@gmail.com

<https://josuakrause.github.io/info/>

Personal Information

date of birth: January 18th, 1988

place of birth: Isny im Allgäu

nationality: German

Education

University, NYU Tandon School of Engineering

New York, USA – 2013 - 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

Accern

New York, USA – 2018
Senior Data Scientist

Pacific Northwest National Laboratory

Washington, USA – 2016 and 2017
Summer Internships

IBM T. J. Watson Research Center

New York, USA – 2014 and 2015
Summer Internships

NYU Tandon School of Engineering

New York, USA – 2013 - 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

2018

Josua Krause, Adam Perer, Enrico Bertini: “A User Study on the Effect of Aggregating Explanations for Interpreting Machine Learning Models”,

KDD 2018 Workshop on Interactive Data Exploration and Analytics (IDEA) 2018

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 (TVCG – 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)* 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)* 2014

2012

Josua Krause, Marc Spicker, Leonard Wörteler, Matthias Schäfer, Leishi Zhang, and Hendrik Strobel: **“Interactive Visualization for Real-time Public Transport Journey Planning”**, *Proceedings of SIGRAD* 2012

Patents

Josua Krause, Kenney Ng, Adam Perer: “Identifying and ranking risk factors using trained predictive models”,

US Patent App. 15/172,512 and 15/144,948 2017

Committee Memberships

Special Applications Subcommittee for ACM CHI Conference on Human Factors in Computing Systems (ACM CHI) 2019

Workshop on Visual Analytics in Healthcare (IEEE VAHC) 2017