Josua Krause

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web:	https://josuakrause.github.io/

Education

PhD in Computer Science, NYU Tandon School of Engineering
New York, USA – 2013 - 2018
dissertation: "Using Visual Analytics to Explain Black-box Machine Learning"
publications: *see select publications below*
advisor: Prof. Dr. Enrico Bertini

MSc in Computer Science, University of Konstanz
BSc in Information Engineering, University of Konstanz

Employments

Accern, NLP startup in the FinTech space ($20M Series B early 2022)
role: Vice President of Data Science
New York, USA – 2018 - current
tasks: lead of research, development, and deployment of AI models; focus on deep representation learning, natural language processing, and adaptive learning at scale
team: 6 Data Scientists; 2 Data Engineers
tenure: started during Pre-Series A as Senior Data Scientist
scale: 500k documents per day; repository of 4B historical documents
select AI technology: PyTorch, Hugging Face BERT / DistilBERT, NVIDIA Triton, scikit-learn, pandas, pola-rs, Project Jupyter
select Cloud technology: AWS, GCP, DigitalOcean, Kubernetes, Prometheus, Grafana, Redis, PostgreSQL

NYU Tandon School of Engineering
role: Adjunct Professor
New York, USA – 2021
teaching: Foundations of Data Science

Pacific Northwest National Laboratory
National Security Internship Program
IBM T. J. Watson Research Center
Research Summer Intern
NYU Tandon School of Engineering
Research Assistant, Teaching Assistant

Patents

Josua Krause, Kenney Ng, Adam Perer: **"Identifying and ranking risk factors using trained predictive models"**,
US Patent 11,355,245 and 11,355,246 – submitted 2017, accepted 2022

Select Publications

Josua Krause, Adam Perer, Enrico Bertini: **"A User Study on the Effect of Aggregating Explanations for Interpreting Machine Learning Models"**,
***KDD Workshop** on Interactive Data Exploration and Analytics (**IDEA**) 2018*

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*

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, 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*

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, 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*

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*

Paolo Tamagnini, **Josua Krause**, Aritra Dasgupta, Enrico Bertini: **"Interpreting Black-Box Classifiers Using Instance-Level Visual Explanations"**,
***SIGMOD Workshop** on Human-In-the-Loop Data Analytics (**HILDA**) 2017*