Dominik**Moritz**

http://www.domoritz.de
domoritz@cs.uw.edu
github://domoritz
twitter://domoritz
+1 (415) 857 2848
+49 176 49289779

My goal is to use a combination of **large-scale systems for data analysis and interactive visualizations** to support novel insights and fast exploration of multi-dimensional data. I hope to build visualization systems that use statistical analysis, both for driving visualization recommendation and guiding the user's exploration as well as for supporting richer exploratory analysis.

Education

since 2013 **University of Washington** – *Ph.D. in Computer Science & Engineering* Seattle
Advised by **Bill Howe** and **Jeffrey Heer**.
Member of the Database Group and the Interactive Data Lab. Research focus on distributed database systems and interactive data visualization.
M.Sc. in Computer Science & Engineering in June 2015

2010-2013 **Hasso Plattner Institute** – *B.Sc. in IT-Systems Engineering* Potsdam
Bachelor's thesis: "Algorithms for the Visualization of Software System Evolution".
GPA: 4.0 (1.0 in German system), highest distinction, rank 1/74
Advanced classes on database implementation, computational geometry, architecture, and logic.

Notable Awards

2013-2014 **Fulbright Fellowship** Bureau of Educational and Cultural Affairs, USA
Highly competitive, merit-based grant for international educational exchange for students, scholars, teachers and scientists.

2010-2015 **Studienstiftung des Deustschen Volkes** Studienstiftung, Bonn
The German National Academic Foundation grants prestigious scholarships to students with outstanding academic achievements. Merit-based grant for B.Sc. and M.Sc.

2010-2015 **Hasso Plattner scholarship** Hasso Plattner Institute, Potsdam
One-year scholarship awarded to the best graduates of each year.

Peer-reviewed Publications

Vega-Lite: A Grammar of Interactive Graphics
Arvind Satyanarayan, **Dominik Moritz**, Kanit Wongsuphasawat, Jeffrey Heer. *Infovis 2016*

SQLShare: Results from a Multi-Year SQL-as-a-Service Experiment
Shrainik Jain, **Dominik Moritz**, Daniel Halperin, Bill Howe, Ed Lazowska. *SIGMOD 2016*

Towards A General-Purpose Query Language for Visualization Recommendation
Kanit Wongsuphasawat, **Dominik Moritz**, Anushka Anand, Jock Mackinlay, Bill Howe, Jeffrey Heer. *HILDA at SIGMOD 2016*

High Variety Cloud Databases
Shrainik Jain, **Dominik Moritz**, Bill Howe. *ICDE 2016*

Dynamic Client-Server Optimization for Scalable Interactive Visualization on the Web
Dominik Moritz, Jeffrey Heer, and Bill Howe. *Data Systems for Interactive Analysis (DSIA) Workshop at IEEE Vis 2015*

Voyager: Exploratory Analysis via Faceted Browsing of Visualization Recommendations
Kanit Wongsuphasawat, **Dominik Moritz**, Anushka Anand, Jock Mackinlay, Bill Howe, and Jeffrey Heer. *Infovis 2015*

Perfopticon: Visual Query Analysis for Distributed Databases
Dominik Moritz, Daniel Halperin, Bill Howe, Jeffrey Heer. *Computer Graphics Forum (EuroVis) 2015*

Demonstration of the Myria big data management service
Daniel Halperin, Victor Teixeira de Almeida, Lee Lee Choo, Shumo Chu, Paraschos Koutris, **Dominik Moritz**, Jennifer Ortiz, Vaspol Ruamviboonsuk, Jingjing Wang, Andrew Whitaker, Shengliang Xu, Magdalena Balazinska, Bill Howe, Dan Suciu. *SIGMOD 2014*

Visualization of Varying Hierarchies by Stable Layout of Voronoi Treemaps
Sebastian Hahn, Jonas Trümper, **Dominik Moritz**, Jürgen Döllner. *IVAPP 2014*

Professional and Research Experience

Summer 2016 **Microsoft Research** – *Research Intern* Redmond
With Danyel Fisher. I developed and user tested a UI for an approximate query processing system.

Summer 2015 **Google Research** – *Research Intern* Mountain View
Intern in the Structured Data Team with Sudip Roy, Alon Halevy, Alkis Polyzotis, Natasha Noy, Xiao Yu, and Chris Olston. I improved the user experience of an internal search engine, worked with the knowledge graph team, and designed on a summarization algorithm for search results. [UX, algorithm design, large scale systems, JavaScript, C++]

Summer 2014 **Google** – *Software Engineering Intern* New York City
Developed new algorithms to support complex queries in large scale production monitoring system.
[Algorithm design, large scale software development, profiling, C++]

2012-2013 **Open Knowledge Foundation** – *Intern and Developer* London and Berlin
Two-month summer internship and subsequent one-year involvement in development and training for CKAN, the most deployed open data portal in the world.
[Distributed teams, agile development, large legacy systems, Python, JavaScript]

2012-2013 **Hasso Plattner Institute** – *Bachelor's Project* Potsdam
In a team of four students developed a tool to visualize software evolution with 3D Voronoi Treemaps. I focused on the theory and implementation of layout algorithms.
[Legacy code, visualization, complex algorithms, C++]

2012-2013 **University of Potsdam** – *Research Assistant* Potsdam
Worked on theory and implementation of an extension of the Clasp Answer Set Programming solver for pseudo-boolean constraints. In Knowledge Representation and Reasoning Group with Torsten Schaub.
[Research, benchmarking, logic programs, C++]

2012 **Google Summer of Code** Internet
Extend Open Data platform for information about people. [Open source development, JavaScript]

Teaching Experience

Spring 2015 **Teaching Assistant, CSE 512 Data Visualization** University of Washington
Prepared discussions, graded assignments, held office hours, visualization tools and D3 tutorial.

Winter 2014 **SQL Workshop** UW eScience Institute
One day workshop on SQL for scientists at the University of Washington.

Spring 2012 **Teaching Assistant, VHDL** Hasso Plattner Institute
Prepared course material for class on VHSIC Hardware Description Language.

Relevant Coursework

since 2013	Distributed Systems, Data Visualization, Programming Languages, Databases, Computer Vision, Machine Learning, Statistical Methods for Machine Learning	University of Washington
Winter 2014	Databases I and II, Designing Interactive Systems, Computer Graphics, Software Engineering, OS, Computational Geometry	Hasso Plattner Instute
Spring 2012	Declarative Problem Solving, Applied Logic, Artificial Intelligence	University of Potsdam

Major Projects

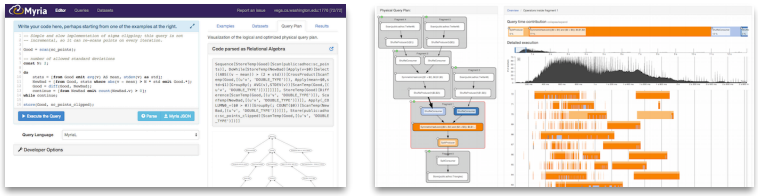
More on GitHub @domoritz

since 2014 — **Vega, Vegalite, Polestar, Voyager** – vega.github.io — UW Interactive Data Lab

Vega and Vegalite are declarative visualization grammars. Polestar and Voyager are tools for visual data exploration.

since 2013 — **Myria** – myria.cs.washington.edu — UW Database group and the UW eScience Institute

Myria is a distributed, shared-nothing Big Data management system. I developed new operators, the expression language, profiling, and query language features.



2012-2014 — **CKAN** – ckan.org — Open Knowledge Foundation

CKAN (Comprehensive Knowledge Archive Network) is the most popular open data publishing platform used by data.gov and many other governments, organizations and universities. I developed the CKAN data store, preview API, and importer services.

Languages

German native
English fluent

Programming

Python, C++, Java, JavaScript, Go, Smalltalk, Prolog, CSS 3 & HTML 5

Systems, Frameworks & Techniques

Git, Linux, Latex, PostgreSQL, D3, Vega, Angular, Protocol Buffers, Qt, Testing, Prototyping