

# PHILIPP LUKAS GREGOR BURCKHARDT

## PERSONAL INFORMATION

*Born in Germany, 23 January 1990*

*email* [pgb@andrew.cmu.edu](mailto:pgb@andrew.cmu.edu)

*website* <http://www.philipp-burckhardt.com>

## EDUCATION

2013- Carnegie Mellon University

*PhD in Statistics &  
Data Science, MSc  
in Public Policy*

Heinz College · Department of Statistics & Data Science  
Advisors: Prof. Alexandra CHOULDECHOVA, Prof. Christopher GENOVESE,  
Prof. Rebecca NUGENT, Prof. Rema PADMAN, Prof. Howard SELTMAN

2012-2013 University of Oxford

*MSc Applied  
Statistics*

· Department of Statistics · *Graduated with Distinction*  
· Foreign Exchange Scholarship of the German National Academic Foundation  
Thesis: *What's the news?*  
Advisor: Dr. Geoff NICHOLLS

2009-2012 Humboldt-University of Berlin

*BSc Economics*

· School of Business and Economics  
· Price of the Economic Society at Humboldt-University of Berlin for the best  
graduation of the year 2012 (GPA 1.1)  
· Scholar of the German National Academic Foundation (since 2011)  
Thesis: *The Impact of System Risk on Company-Specific Risk*  
Advisor: Prof. Melanie SCHIENLE

## GRANTS

### **Data Analysis Think-Alouds: Investigating Student Engagement and Workflow on an Online Interactive Statistical Analysis Tool**

ProSEED/Simon Initiative Seed Grant. Awarded May 2018. \$15,000. Rebecca Nugent (PI) and Philipp Burckhardt (Investigator).

### **Using Interactive Lab Activities To Improve Statistics Education**

ProSEED/Simon Initiative Seed Grant. Awarded April 2016, \$14,084. Alexandra Chouldechova (PI), Christopher Genovese (PI) and Philipp Burckhardt (Investigator).

## RESEARCH

*Publications*

2018 A Deep Learning Architecture for De-identification of Patient Notes: Implementation and Evaluation

Conference paper. 28th Workshop on Information Technologies and Systems. Santa Clara.

Authors: Kaung KHIN, Philipp BURCKHARDT, Prof. Rema PADMAN

2018 TeachIT: Turning the Classroom into a Research Laboratory via Interactive E-Learning Tools.

Invited paper. "Looking back, looking forward." Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July, 2018), Kyoto, Japan.

Authors: Philipp BURCKHARDT, Prof. Alexandra CHOULDECHOVA, Prof. Rebecca NUGENT

2018 Multi-Trajectory Modeling to Predict Acute Kidney Injury in Chronic Kidney Disease Patients

American Medical Informatics Association (AMIA) Annual Symposium Proceedings, San Francisco.

Authors: Philipp BURCKHARDT, Prof. Daniel NAGIN, Prof. Rema PADMAN, Vijaya PRIYA RAMA VIJAYASARATHY

2017 deidentify

**American Medical Informatics Association (AMIA) Annual Symposium Proceedings**, Washington DC.

Authors: Philipp BURCKHARDT, Prof. Rema PADMAN

2017 Querying Online Self-help Forums for Chronic Kidney Disease with Ontology-based Text Mining

**Proceedings of the 12th INFORMS Workshop on Data Mining and Decision Analytics**, Houston.

Authors: Philipp BURCKHARDT, Prof. Rema PADMAN

2017 Improving Statistics Education Through Interactive Learning Tools

**Joint Statistical Meetings (JSM) Proceedings**, Baltimore.

Authors: Philipp BURCKHARDT, Prof. Alexandra CHOULDECHOVA

2016 Multi-Trajectory Models of Chronic Kidney Disease Progression

**American Medical Informatics Association (AMIA) Annual Symposium Proceedings**, Chicago, November 2016. **Student Paper Competition Finalist & 2nd place KDDM Student Paper Award.**

Authors: Philipp BURCKHARDT, Prof. Daniel NAGIN, Prof. Rema PADMAN

2015 Analyzing Self-Help Forums with Ontology-Based Text Mining: An Exploration in Kidney Space

**American Medical Informatics Association (AMIA) Annual Symposium Proceedings**, San Francisco, November 2015.

Authors: Philipp BURCKHARDT, Prof. Rema PADMAN

2013- Locating Economic Perceptions: the Geographical Distribution of Responses to Economic News

Authors: Philipp BURCKHARDT, Prof. Raymond DUCH, Akitaka MATSUO

2012- A REX for Banks

Authors: Philipp BURCKHARDT, Prof. Melanie SCHIENLE, Julia SCHAUMBURG

*Working Papers*

*Presentations*

**Multi-Trajectory Modeling to Predict Acute Kidney Injury in Chronic Kidney Disease Patients**

Paper presentation at the AMIA 2018 Annual Symposium, San Francisco, November 2018, joint work with Rema Padman, Daniel Nagin, Vijaya Priya Rama Vijayasathy

**First Words - How to get rid of a thousand apps and regain your voice**

Presentation at the International JavaScript Conference (iJS), Munich, October 2018

**Techniques for Analyzing Large Datasets with Node.js**

Presentation at the International JavaScript Conference (iJS), Munich, October 2018

**From Data Import to Poster Export: Data Analysis with ISLE**

Presentation at Teaching Learning Summit, Pittsburgh, November 2018, joint work with Francis R. Kovacs and Rebecca Nugent

**How students make sense of data on an e-learning platform**

Presentation at the Joint Statistical Meetings, Vancouver, July-August 2018, joint work with Rebecca Nugent and Christopher Genovese

**TeachIT: Turning the Classroom into a Research Laboratory via Interactive e-Learning Tools**

Paper presentation at 10th International Conference on Teaching Statistics, Kyoto, July 2018, joint work with Alexandra Chouldechova and Rebecca Nugent

**Learning Data Science with the Help of a Data Exploration Tool**

Poster presentation at the Electronic Conference On Teaching Statistics (eCOTS), May 2018, joint work with Rebecca Nugent and Christopher Genovese

**Identifying misconceptions of introductory data science using a think-aloud protocol**

Poster presentation at the Electronic Conference On Teaching Statistics (eCOTS), May 2018, joint work with S Hyun, P Elliott, C Evans, K Lin, A Luby, C P Makris, J Orellana, A Reinhart, J Wiecek, R Yurko, G Weinberg, & R Nugent

**E-Learning Tools for Teaching Predictive Analytics and Data Science**  
Presentation at the POMS 29th Annual Conference, Houston, May 2018, joint work with Rema Padman

**De-identification of personal health identifiers in medical records**  
Poster presentation at the CMU Innovation with Impact Exhibition, April 2018, joint work with Rema Padman

**Introduction to stdlib-js**  
Talk at the International JavaScript Conference (iJS), London, April 2018

**The JavaScript & Node.js Data Science Survival Kit**  
Power workshop (together with Athan Reines) at the International JavaScript Conference (iJS), London, April 2018

**deidentify**  
Presentation at the AMIA 2017 Annual Symposium, Washington DC, November 2017, joint work with Rema Padman

**deidentify**  
Presentation at the 8th Conference on Health IT and Analytics (CHITA), November 2017, joint work with Rema Padman

**Exploratory Data Analysis with JS**  
Talk at the International JavaScript Conference (iJS), Munich, October 2017

**Best Practices for Writing JS Libraries**  
Talk at the International JavaScript Conference (iJS), Munich, October 2017

**Querying Online Self-help Forums for Chronic Kidney Disease with Ontology-based Text Mining**  
Paper presentation at the 12th INFORMS Workshop on Data Mining and Decision Analytics, Houston, October 2017, joint work with Rema Padman

**The ISLE Experience: Enhancing Classroom Instruction with Interactive e-Learning Tools**  
Presentation at Teaching & Learning Summit, Pittsburgh, October 2017, joint work with Alexandra Chouldechova and Rebecca Nugent

**Assessment of Student Learning and Misconception Identification in Intro Statistics**  
Poster at Teaching & Learning Summit, Pittsburgh, October 2017, joint work with Peter Elliott, Sangwon Hyun, Kevin Lin, Amanda Luby, Christopher Peter Makris, Josue Orellana, Alex Reinhart, Jerzy Wiecek, Gordon Weinberg & Rebecca Nugent

**Data Science Survival Kit**  
Workshop at Node.js Interactive US (together with Athan Reines), Vancouver, October 2017

**Improving statistics education through interactive learning tools**  
Paper presentation at the Joint Statistical Meetings, Baltimore, July-August 2017, joint work with Alexandra Chouldechova

**The JavaScript Data Science Survival Kit**  
Workshop at FullStack conference on JavaScript, Node and Internet of Things (together with Athan Reines), London, July 2017

**Monitoring and Analyzing User Behaviour**  
Talk at FullStack conference on JavaScript, Node and Internet of Things, London, July 2017

**Understanding Chronic Kidney Disease Progression through Multi-Trajectory Modeling**  
Talk at the POMS 28th Annual Conference, Seattle, May 2017

**How to Mislead the Public**  
Talk at the csv,conf,v3 conference, Portland, May 2017

**Real-Time Machine Learning with Node.js**  
Talk at the Node.js Interactive US conference, Austin, November 2016

**Multi-Trajectory Models of Chronic Kidney Disease Progression**  
Talk at the AMIA 2016 Annual Symposium, Chicago, November 2016, joint work with Daniel Nagin and Rema Padman

**Real-Time Machine Learning with Node.js**  
Talk at the EmpireNode conference, New York, November 2016

**Text Mining with Node.js**  
Talk at the Node.js Interactive Europe conference, Amsterdam, September 2016

### **Workshop: Interactive Numeric Computing with Node.js and JavaScript**

Assistance for a workshop led by Athan Reines at FullStack conference on JavaScript, Node and Internet of Things, London, July 2016

### **Tweet as a tool for election forecast**

Presented at the third annual meeting of the Asian Political Methodology Society in Beijing, January 2016, joint work with Raymond Duch and Akitaka Matsuo

### **Analyzing Self-Help Forums with Ontology-Based Text Mining: An Exploration in Kidney Space**

Presented at the American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, November 2015, joint work with Rema Padman

### **Powered by the Web. Harnessing web technologies for large-scale data analysis**

Presented at the "From Industrial Statistics to Data Science" conference at the University of Michigan, Ann Arbor, September 2015, joint work with Athan Reines

### **Tweet as a Tool for Election Forecast: UK 2015 General Election as an Example**

Presented at the fifth annual conference of the European Political Science Association (EPSA), Vienna, June 2015 and the annual meeting of the American Political Science Association, San Francisco, September 2015, with Raymond Duch and Akitaka Matsuo

### **Locating Economic Perception: The Geographical Distribution of Economic Tweets**

Presented at the 73rd annual Midwest Political Science Association (MPSA) Conference, Chicago, April 2015, with Raymond Duch and Akitaka Matsuo

### **Locating Economic Perceptions**

Presented at the Asian Political Methodology Meeting, Tokyo, January 2014, with Raymond Duch and Akitaka Matsuo

## SOFTWARE

### *node.js Packages*

2016- **stdlib**

Jointly with Athan Reines, development of **stdlib**, a standard library for JavaScript, which includes extensive numerical and statistical computing packages.

2014- **Published 250+ software modules on npm**

Selection: *ConceptNet*, an interface to the ConceptNet semantic network API. *rstats*, an interface to statistical programming language R. *text-miner*, text mining utilities for processing text corpora and creating document-term matrices. *wordnet-magic*, tools for working with Princeton's lexical database WordNet.

### *R Packages*

2012 **newscrapeR**

Based on the Yahoo! Query Language, this package allows data mining and processing of news articles from several international newspapers and other online sources.

## WORK EXPERIENCE

2013 - **Teaching Assistant**

### *Carnegie Mellon University*

- Spring 2018: 94-842 Programming in R for Analytics
- Fall 2017, Spring 2018: 36-200 Reasoning with Data (Co-Instructor)
- Spring 2017, Summer 2017 & 2018: 36-200 Reasoning with Data
- Fall 2016: 650-750 Statistical Computing
- Spring 2016: 95-868 Exploring and Visualizing Data
- Spring 2016: 36-220 Engineering Statistics and Quality Control / 36-247 Statistics for Lab Sciences
- Fall 2015, Fall 2016: 90-711 Statistical Methods
- Fall 2014, 2015: 90-905 Statistical Theory for Social and Policy Research
- Fall 2013: 36-309/749 Experimental Design for Behavioral and Social Sciences.

2010–2012 Management Assistant

Ludic Philosophy  
GmbH & Co. KG

Responsibilities: Accounting, Data Analysis

#### COMPUTER SKILLS

<i>Languages</i>	R, JAVASCRIPT, C, C++, HTML, CSS
<i>Software</i>	Git, L <sup>A</sup> T <sub>E</sub> X, Microsoft Office
<i>Databases</i>	MySQL, SQLite, mongoDB
<i>Operating Systems</i>	Linux, MacOS, Windows

#### PROFESSIONAL ORGANIZATION MEMBERSHIPS

American Medical Informatics Association (AMIA)  
American Statistical Association (ASA)  
Institute of Mathematical Statistics (IMS)  
Institute for Operations Research and the Management Sciences (INFORMS)  
Society for Industrial and Applied Mathematics (SIAM)

#### ACADEMIC SERVICE

Reviewer for the AMIA Annual Symposium  
Reviewer for the Journal of Educational and Behavioral Statistics  
Reviewer for the INFORMS Annual Meeting  
Reviewer for the International Conference on Teaching Statistics (ICOTS)

#### OTHER INFORMATION

<i>Languages</i>	GERMAN	·	Mothertongue						
	ENGLISH	·	Fluent						
	FRENCH	·	Basic (simple words and phrases only)						
	LATIN	·	Intermediate						
	ANCIENT GREEK	·	Advanced						
<i>Interests</i>	Movies	·	Books	·	Web Development	·	Politics	·	Technology

September 29, 2018