

Call for Papers:

Quantifying Digital Social Spaces and Fields

Towards a Bourdieusian Methodology of Computational Social Sciences and Digital Humanities

Andreas Schmitz

(Dept. Computational Social Science, Gesis, Cologne/Germany)

Mattia Samory

(Dept. Computer Science, Sapienza University of Rome/Italy)

In recent years, the intersection between computer science and the social sciences has increased enormously. While the complementary potentials of methods and the common interests in subject areas are increasingly becoming the focus of interdisciplinary research projects, the methodological and theoretical dimension of this interdisciplinary collaboration is still grounded on a rather weak basis. Often, ad hoc assumptions concerning human behaviors and motivations play a central role. In this innovative panel of the CARME conference, at the intersection of dimension reduction methods and social sciences, we aim to bring the modern research program of relational Bourdieusian sociology and its main international representatives into conversation with current research in computer studies.

The ongoing digitization of the societal challenges us to investigate (seemingly) new phenomena such as digital mate choice, online communities, and digital markets. Digital practices and communications stemming from these contexts provide us with amounts, types, and structures of data whose implications have not yet been systematically recognized and implemented for interdisciplinary research practice. A particular characteristic of such web-generated process data is its genuine relational constitution, i.e., the fact that specific entities (such as human subjects) do not exist side by side in isolation but that a multitude of entities (people, actions, bots, groups, events, socio-technical components, etc.) interact with and impact on each other and thereby co-produce social phenomena. While this was the case for any social phenomenon before digitization, there is still a crucial difference when compared with today's situation. In light of such genuine relational data, traditional theoretical and methodological approaches that reduced the social to the actions of isolated actors and used respective models are reaching their limits.

In contrast, Bourdieu's relational approach has put this relational nature of the social and the different data types associated with it center stage, and it is particularly concerned with the iterative and abductive statistical construction of dimensions and classes. Thus, the relational program is particularly suited to become a promising conversational partner to those computer scientists that engage with societal phenomena. Sociologists can contribute their elaborated concepts of power, symbolic structures, discursive structures, practices, fields, spaces, and functional relations, as well as the appurtenant developed methodology comprising

dimensionality reduction, classification, qualitative techniques, and mixed methods. Interdisciplinary projects from the emerging fields of computational social sciences and digital humanities require profound insights into meanings, intersubjectivities, rules, power relations, etc., that structure a given socio-technical field and the data generated therein. Vice versa, computer science contributions must be systematically considered and incorporated into the toolkits of Bourdieusian methodology. These include ways of organizing data efficiently (such as NoSQL), data management routines, data and model versioning, and appropriate statistical analysis techniques such as advances in model-based clustering, network analysis, computer vision, natural language processing, simulations, variants of geometric data analysis as well as recent developments such as representation learning and embedding, reinforcement learning, and geometric deep learning. Not least, the current emerging field of CSS requires closer collaboration and integration of methods and techniques from sociology and computer science in order to construct digital social spaces and fields in a theoretically sound, empirically adequate, and methodologically controlled manner.

In this panel of the CARME conference, we want to provide scientists from different backgrounds working in the realm of digital space and fields the unique opportunity to present their research at the intersection of sociology and computer science. Special attention will be devoted to questions concerning the construction of social fields and spaces as well as their dimensionality with the help of geometric data analysis and related methods.

Exemplary topics include

- Empirical analyses of digital fields and spaces using dimensionality reduction
- Recent developments in geometric data analyses in the context of web-generated data
- Modeling systemic field effects and functions
- Formal construction of dimensions, classes, habitus, dispositions, discourses, etc.
- Textual data analysis in the context of field theory
- Model-based clustering, representation-based classification, embedding, unsupervised machine learning, geometric deep learning, and simulations in the context of social spaces/fields
- Issues of statistical inference and data quality in the context of computational social sciences/digital humanities
- Reflections on the development of the field of computational social sciences/digital humanities collaborations between Bourdieusian social scientists and computer scientists

Please send a proposal (about one page) to

andreas.schmitz@uni-bonn.de and mattia.samory@uniroma1.it

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