

Data-Intensive Systems

Bachelor project proposals 2024

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Our research group

Our interests

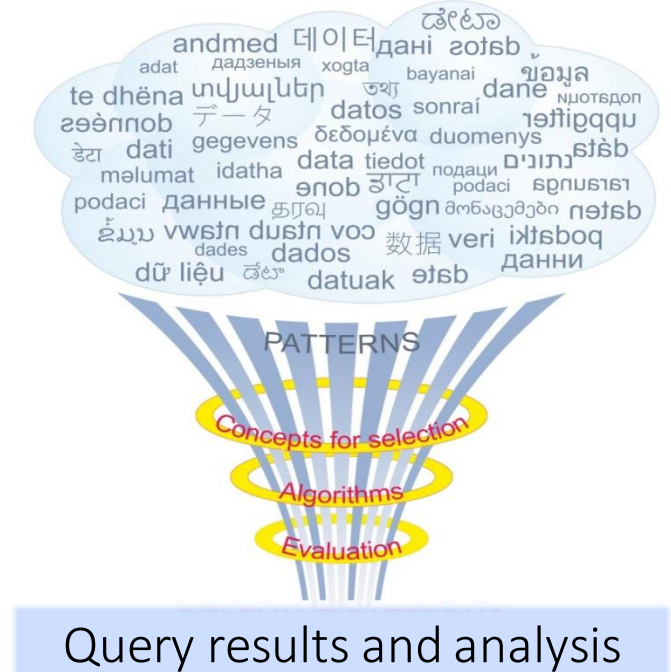
- Data management, data analysis, machine learning
- Efficiency and scalability
- Models and algorithms

Our methods

- Formalize real world problems
- Devise concepts and algorithmic solutions
- Evaluate empirically

Our tools and results

- Theoretical analysis and prototype implementations



Our great supervisory team includes



Andrew Draganov
PhD student



Amalie Brogaard Pauli
PhD student



Zhiqiang Zhong
Postdoc



Atefeh Moradan
PhD student



Anders Sandholm
Google Prod. Man.



Cheng Huang
PhD student



Konstantinos Skitsas
PhD student

Projects in a Nutshell

GEnS: Entity summarization
meets GNNs

Effective Graph ML with the
Guide of Label Correlation

Elastic Graph Indexing

Graph intelligence



Relating density- and center-
based clustering

OANa: Old algorithms, new
hardware

Data Mining



Automatically labelling data
for classifying rhetorical
appeals

Large Language Model-
augmented Graph Neural
Network Pre-training

Summarization of Meetings
using Generative AI

Natural Language
Processing





Graph intelligence

GEEnS: Entity summarization
meets GNNs

Can we learn to describe an
entity?

Effective Graph ML with the
Guide of Label Correlation

Can we build better Graph NNs
by improving the supervision?

Elastic graph indexing

Can we learn what information to
find in a graph fast?



Data Mining



Relating density- and center-based clustering

Can we construct a swiss-army-knife of clustering methods?



OANa: Old algorithms, new hardware



Can we devise extremely fast algorithms on futuristic hardware?



Natural Language Processing



Automatically labelling data
for classifying rhetorical
appeals

Can we automatically detect
rhetorical appeals in text?



Large Language Model-
augmented Graph Neural
Network Pre-training

Can we use LLMs to pre-train Graph
NN, so that they become more
effective?



Summarization of Meetings
using Generative AI

Can we automatically
summarize the online meetings
with AI?

