



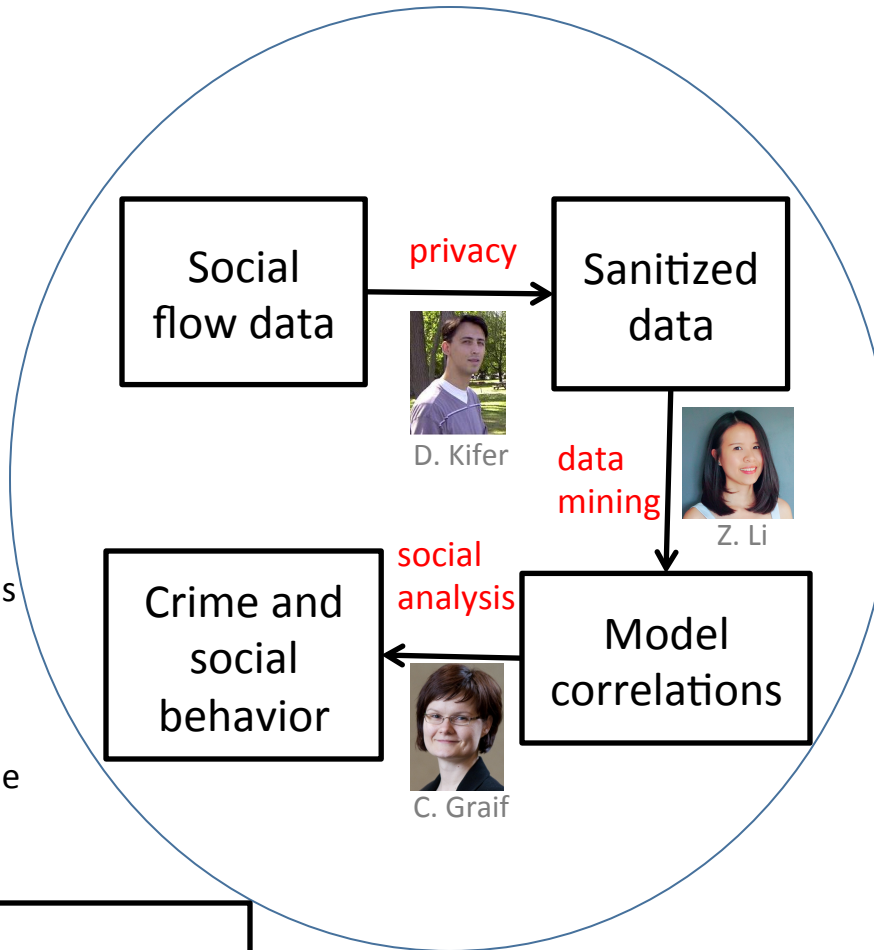
Toward Transparency in Public Policy via Privacy Enhanced **Social Flow Analysis** with Applications to Ecological Networks and **Crime**

Challenge:

Techniques to "sanitize" sensitive data (e.g., anonymization) could have negative impact on the quality of the scientific results that use the data.

Solution:

- An ecological model of networks of neighborhoods that are linked by social flows.
- Key observations: adding commuting data significantly improves crime inference result.



Scientific Impact:

- Data privacy researchers have a better understanding of what end-user data practitioners need from sanitized data.
- Robust data analytic model for sanitized data.
- Studies of social issues with social flow data.

Broader Impact:

- Enable data sharing with the public.
- Generate scalable and robust analyses to address critical social issues.
- Suggest potential avenues for improving decision-making by social workers and urban planners.
- Interdisciplinary project between computer scientists and social scientists.

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