

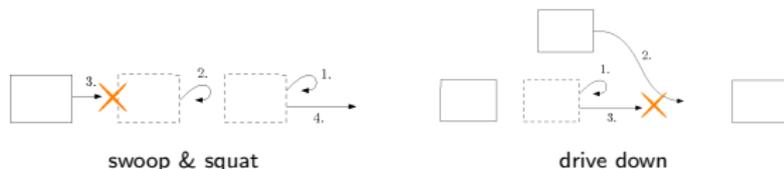
applications *fraud*

introduction to *network analysis* (*ina*)

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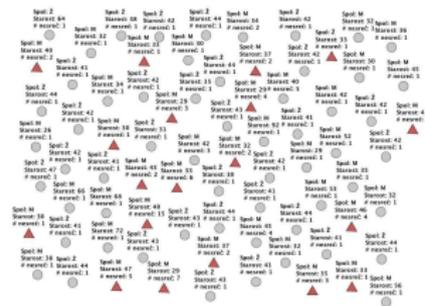
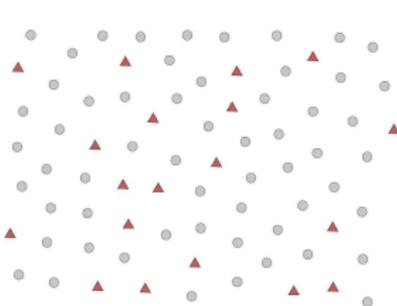
# fraud *insurance*

- *staged traffic accidents* with *false insurance claims*
- common characteristics of *staged crash schemes*



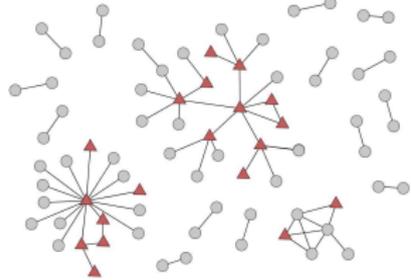
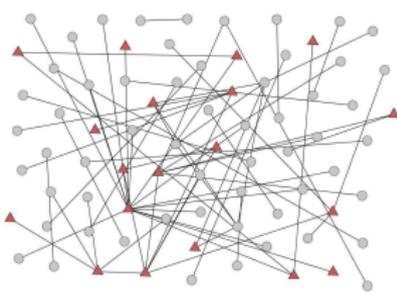
- $\approx 10\%$  of insurance claim outcome due to fraud
- $\approx 100$  million € yearly loss in Slovenia due to fraud

# fraud *detection*



1. *fraudulent* participants in traffic accidents

2. *analysis/mining* of participants metadata

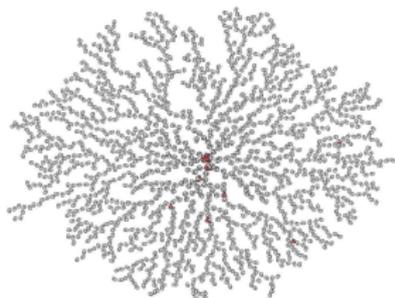


3. *participants collaboration* as social network

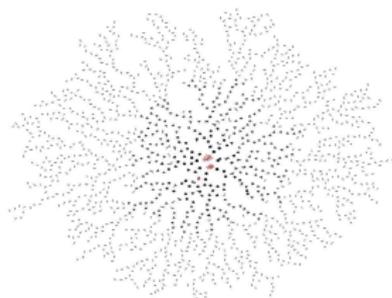
4. *suspicious participants* visible by *naked eye*

\* participants metadata from semi-structured police records

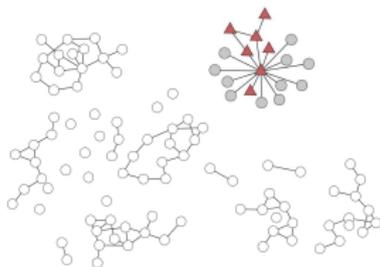
# fraud *system*



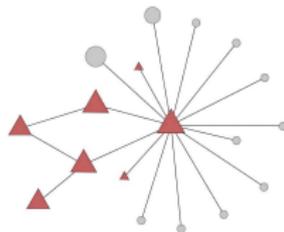
1. *drivers, passengers & witnesses network*



2. *network connectivity around critical point*



3. *suspicious components by link rewiring*



4. *suspicious participants by link analysis*

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†  $\approx$  1500 accidents in Slovenia from period 1999-2008 [ŠFB11]

# fraud *references*



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