

# SOCIAL SIMULATION

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Data and Web Science Group

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# INTRODUCTION



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## IN THIS PROJECT, YOU'LL ...

- ... build a **simulation model** mirroring the **car traffic of Mannheim** city in NetLogo
- ... implement a **dynamic pricing** mechanism for parking space & simulate its effects on the **socio-economic mixup**

# NETLOGO PROTOTYPE

- The participants of our Master's **seminar 2020** already developed a **prototype** in **NetLogo**:
  - Madeleine Aziz, Jens Daube, Paul Exner, Jakob Gutmann, Jonas Klenk, and Aamod Vyas
- You will build upon this prototype and enhance it will **geo-spatial data** of the city

Setup

### Traffic Grid

cars: 300

demo-mode:  On  Off

hide-nodes:  On  Off

show-goals:  On  Off

per-cycle: 20

distribution-percentage: 40%

### Parking Fees

Initial Fees

Current Fees

yellow-lot-fee: 2

orange-lot-fee: 2

green-lot-fee: 1.5

blue-lot-fee: 2

lot-fee: 2.5 € / hour

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How high should the fines be in terms of the original hourly fee?

finer-multiplier: 5 time(s)

How often every hour should one of the lots be controlled?

controls-per-hour: 1 time(s)

### Income Distribution

mean-income: 25882 €

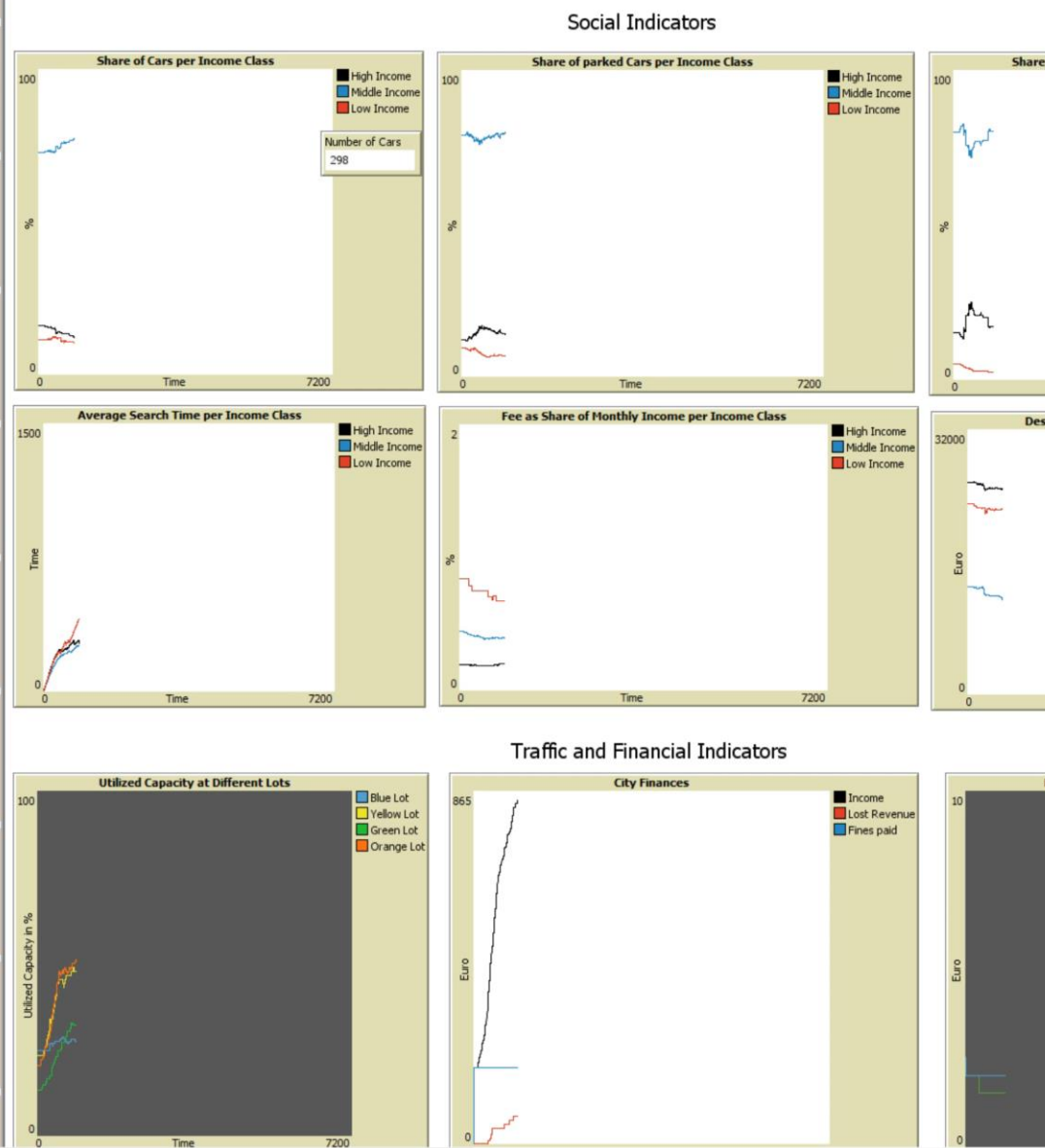
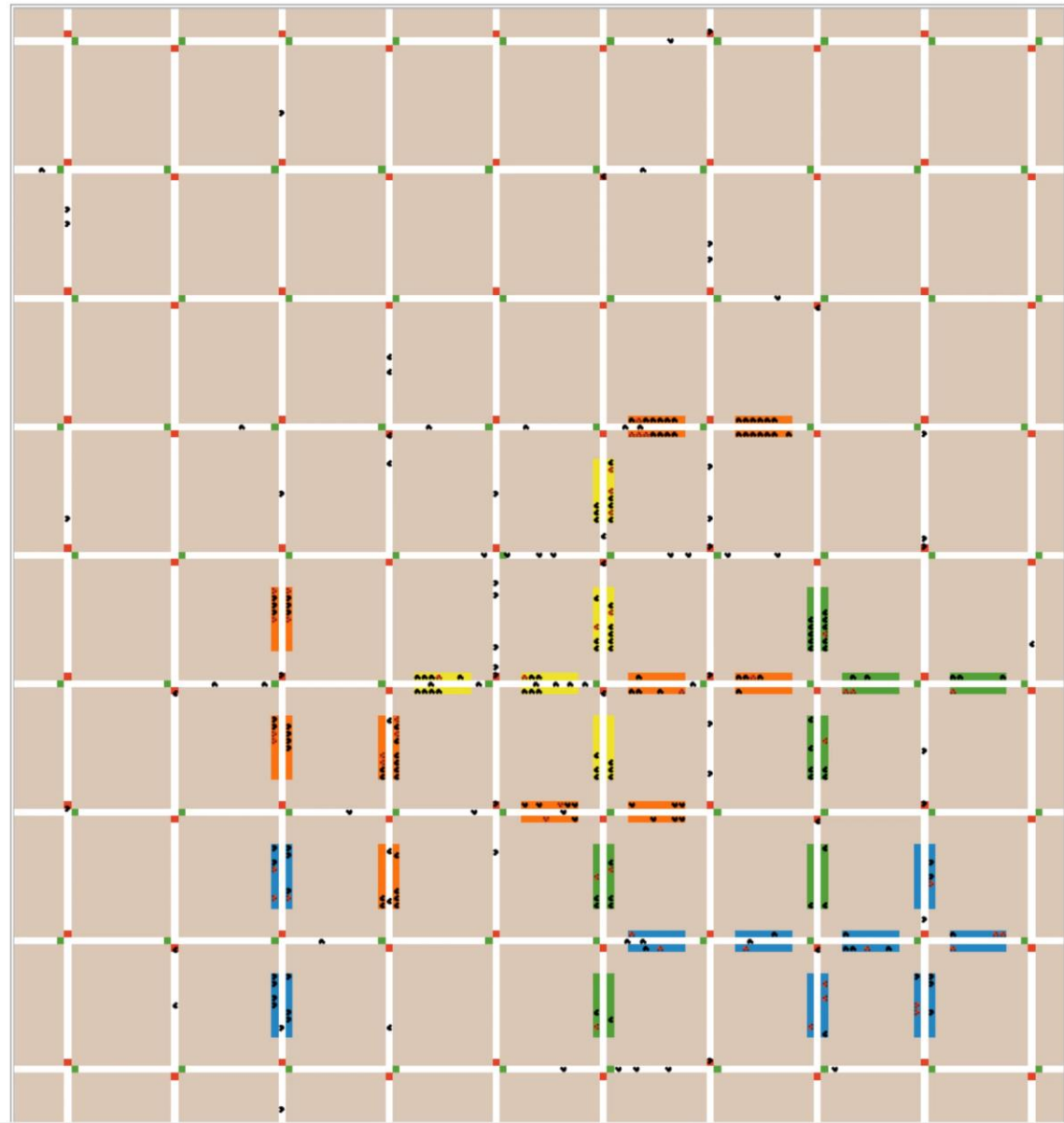
median-income: 22713 €

income-share: 0.005

Min Income in Model: 6275.61

Mean Income in Model: 24794.13

Max Income in Model: 62450.9



# FACTSHEET

- Title: “Social Simulation”
- Contact: [kilian@informatik.uni-mannheim.de](mailto:kilian@informatik.uni-mannheim.de)
- Participants: 5 to 10
- Requirements: intermediate Python or Java
- Suitable for MMDS: yes

We're hiring  
PhD students!