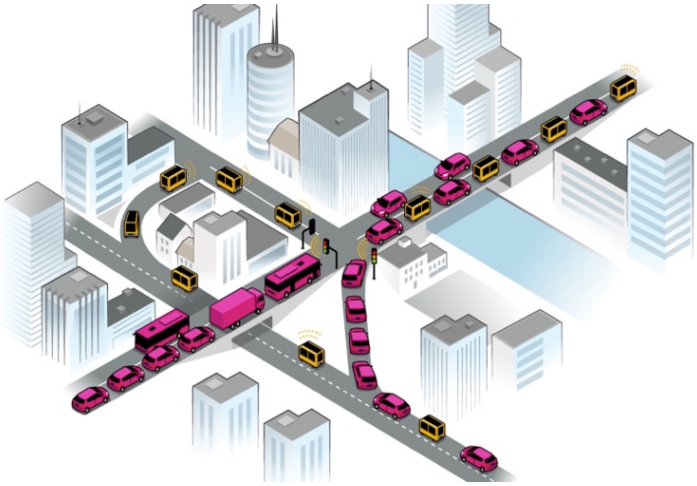
PhD position in ERC Starting Grant COeXISTENCE on Agent-based simulations of mixed human-machine urban mobility

Group of Machine Learning, Jagiellonian University, Kraków, Poland

The GMUM Group of Machine Learning at Faculty of Mathematics and Computer Science at **Jagiellonian University** in **Kraków** (est. 1364) invites applications for PhD and PostDoc positions in the **COeXISTENCE** research funded under prestigious **ERC Starting Grant**.



We offer a competitive salary: **~2700€** with ca 1/2 of Western Europe prices.

In COeXISTENCE, we will try to foresee what happens when our cities are shared with autonomous, intelligent robots - competing with us for limited resources.

We are looking to hire an excellent PhD student with a background in **transportation modelling**, ideally holding a master's degree in transport engineering, computer science, civil engineering or similar with experience in developing transport models. You will focus on creating an agent based virtual environments of urban mobility:

1. You will model the multi-agent virtual environment where human agents make travel decisions.
2. You will simulate traffic flow and demand patterns on detailed multimodal transport networks.
3. You will develop your own challenging research agenda, contributing towards discovery of new phenomena in complex social systems of the future.
4. You will create a virtual environment of future urban mobility, you will model the travel behaviour of humans and simulate the learning process of intelligent machines.
5. You will be part of an interdisciplinary team and member of the international scientific community, communicating your results at the leading conferences and in the journals.
6. You will develop your IT skills towards the timely and challenging complex social systems.

Skills:	**Application** **(opening in April and closing as soon as positions are filled):**
• good programming skills (python) • experience in one of the following: agent-based modelling (MATSim, or similar), traffic flow models (SUMO, or similar) • experience in data-analysis, simulation, data science, ML or spatial analysis will be a plus. • curiosity and capability to read professional scientific literature • be a team-player	• CV with a focus on research and academic experiences • **Research plan and motivation** (2 pages max) demonstrating **your fitness for this position, your research vision for the project and your role** • Recommendation from researcher (employee of any academic institution). If not available, please contact the PI for the pre-screening and possible recommendation • Abstract of your Master Thesis (2 pages max) • English language certificate • transcript of records (B.Sc. and M.Sc. studies) **via mail** coexistence@uj.edu.pl

For further inquiries, please contact Dr Rafal Kucharski at coexistence@uj.edu.pl
or visit the projects' website: https://rafalkucharskipk.github.io/COeXISTENCE/