





PhD position in ERC Starting Grant COeXISTENCE on Complex human-machine adaptive systems of urban mobility

Group of Machine Learning, Jagiellonian University, Kraków, Poland

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

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

In <u>COEXISTENCE</u>, 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 complex systems, game theory or computational social sciences. You shall have experience in complex systems to help us tackle the challenges of the mixed environment of humans and machines:

- 1. You will simulate and observe complex human-machine interactions in the dense urban mobility environment.
- 2. You will introduce the behavioural component into the project, with ethical dilemmas, the trade-off between transparency and efficiency and multi-objective data-driven optimization of social systems
- 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 be part of an interdisciplinary team and member of the international scientific community, communicating your results at the leading conferences and in the journals.
- 5. You will develop your IT skills towards the timely and challenging complex social systems.

Skills:

- basic programming skills (python)
- experience in one of the following:
 - a. computational social science
 - b. complex systems
 - c. physics
 - d. network science
 - e. game theory
 - f. econometry
 - g. or similar
- data science/statistics/analytical skills
- curiosity and capability to read professional scientific literature
- be a team-player

Application

(opening in April and closing as soon as positions are filled):

- 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/