Alexey Lyutov: Data scientist with industrial experience

Experiencing the New Year and Christmas without snow still feels unusual to him. Alexey Lyutov is used to something else: minus 20 degrees Celsius, frost and lots of snow. "Winter is just too warm here," joked the 28-year-old, whose home is the Siberian city of Novosibirsk. An industrial project with the automotive supplier Schaeffler attracted the data scientist to Bremen, to Jacobs University.

With 1.6 million inhabitants, Novosibirsk is Russia's third-largest metropolis and a center for science, business and culture. Alexey Lyutov grew up in Akademgorodok, which means "academic town" – a district where 65,000 scientists and their families lived in Soviet times. Today, the science center still enjoys an excellent reputation as the Silicon Taiga. "It's a fascinating place with important institutions for Russia, especially for the STEM-disciplines Science, Technology, Engineering and Mathematics", Alexey said.

He went to school and studied Mathematics in depth at the Novosibirsk State University in Akademgorodok. As a master's student, he already published several studies, and at the Institute of Computational Technologies, after graduation, he worked on improving software for designing hydraulic turbines. "But then," Alexey recalled, "I increasingly felt I wasn't developing further, wasn't realizing my potential, and should go abroad."

The holder of a black belt in Taekwondo knew Germany from a Work and Travel stay in 2011, when he spent a month helping to renovate a castle near Dresden for free room and board. He liked the country, and when he saw an advertisement for a PhD position at Jacobs University on ResearchGate, a social network for scientists, he did not hesitate long, applied – and was accepted.

That was in 2017. On the international campus in Bremen, he met students from all over the world. This diversity of cultures was something he wasn't used to from Novosibirsk. "Living in a multicultural environment is absolutely enriching," said Alexey summarizing his experience at Jacobs University.

In his doctoral thesis, Alexey is working with the automotive supplier Schaeffler on the simulation and optimization of processes in logistics. "I can apply my methodological expertise and put it into practice immediately," he said. As a leading global automotive and industrial supplier, the Schaeffler Group focuses on quality, technology, and innovation. The group contacted Jacobs University in late 2017 with a technical challenge to have a solution developed for the company. Alexey set the course for the success of this project and further collaborations with his research results.

His research involves, on the one hand, the intelligent evaluation and linking of data using machine learning. And on the other, the development and application of an algorithm for finding inefficiencies in Schaeffler's global transport network – with the aim of reducing transport costs. Marc-Thorsten Hütt, Professor of Systems Biology, and Yilmaz Uygun, Professor of Logistics Engineering, Technologies and Processes at Jacobs University, support the passionate researcher.
Together, the team stands for the success of the industrial project. "A very good example of how complex problems from industry and business can be solved through interdisciplinary cooperation and the international networking of scientists," said Stephan Kuhlmann, project manager of the Business Solutions department, who coordinates industry projects at Jacobs University.

Alexey is about to complete his doctorate. What he will do afterwards professionally is still open: Business or academia, research and teaching at a university or more application-oriented work in a company – Alexey is open to both. As an expert in artificial intelligence and machine learning, many doors are open to him. And there is something else to consider: He and his wife Karina, with whom he studied Mathematics in Akademgorodok, are no longer alone since their son Leonid was born last summer.

This text is part of the series "Faces of Jacobs", in which Jacobs University introduces students, alumni, professors and staff. Further episodes can be found at www.jacobs-university.de/faces.

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