IBPT operates the 110m long electron storage ring KARA and the short-pulse linear accelerator FLUTE on Campus North. The construction and constant improvement of these large-scale research facilities offer a variety of exciting theses for physicists and engineers. Are you interested in particle accelerators, but you do not find a topic that you like at the moment? Just get in touch with us! Due to the many possibilities, we do not advertise every job.

The project
IBPT and the institute of applied informatics and formal description methods (AIFB) are collaborating on applying ML methods, such as text mining and knowledge graphs, to extract useful information from existing scientific publications in accelerator physics. This will allow the visualization and easy exploration of this emerging interdisciplinary field through a web application, which could help unveil new research possibilities. We are looking for motivated students to assist us in this work!

Job description
You will be working in close contact with the students at AIFB

Tasks
- Build required databases of worldwide particle accelerators, ML methods, and ML applications in accelerators
- Categorization and labelling of the ML-related papers
- Helping the development of knowledge graphs and performing information extraction

Qualifications
- Fluency in English
- Previous programming experience in Python
- Interest in any of the following topics: accelerator physics, machine learning, text mining, and natural language processing

Working conditions
- Starting from 30 hours/month (1 day/week)
- Flexible working hours, possibility to work remotely

Don’t hesitate to get in touch with us for more information!

Contact
Dr. Andrea Santamaria Garcia  
Tel.: +49 721 608 26117  
E-Mail: andrea.santamaria@kit.edu  

Chenran Xu  
Tel.: +49 721 608 23353  
E-Mail: chenran.xu@kit.edu  

Interested?