Ph.D. student position
in the field of Machine Learning within the ALICE experiment

Warsaw University of Technology (WUT) is a technical research university with traditions in education dating back to the 19th century, being the oldest of its kind in Poland. It is a forward-thinking institution where high-quality education meets world-class research and innovation. WUT is ranked number one among all technical universities and number three among all universities in the country.

Warsaw University of Technology participates in two LHC experiments: ALICE (physics and computing) and CMS (electronics) as well as several non-LHC experiments (including NA61/SHINE or STAR at RHIC). The ALICE group at WUT consists of 9 staff members (including 2 full professors) and a number of Ph.D., M.Sc., and B.Sc. students working in the group during realization of their diploma theses. We are active in the machine learning domain of data analysis, anomaly detection and generative models for fast simulations. The group also closely cooperates in this field with the STAR group at WUT. Other activities include responsibility for running and maintaining the event display software in ALICE as well as active involvement in data analysis of experimental results.

Job Description

The successful candidate will work on the development of machine learning algorithms for particle identification and fast simulations. The scientific goal the project is to increase the accuracy of particle classification using modern deep learning and classic machine learning methods, as well as speed up the simulation of collision results using contemporary generative models, such as variational autoencoders and generative adversarial networks. The successful candidate will be enrolled in a Doctoral School no. 3 at the Warsaw University of Technology. It is expected that the candidate will defend his/her PhD thesis within 4 years.

Funding

The successful candidate will receive the standard Ph.D. stipend in Poland (2372 PLN/month before the mid-term review, then 3654 PLN/month) plus an additional salary of 1500 PLN/month. Travels to CERN for up to three months per year are also foreseen with an additional allowance covering the costs of living in Geneva area.

Requirements

- M.Sc. degree or a foreign equivalent in Computer Science or related fields (it must be awarded before the start of the recruitment procedure to Doctoral School no. 3 in the beginning of Sep. 2020)
- Experience with machine learning and deep learning algorithms,
- Interest in classification and generative machine learning methods,
- Working knowledge of a modern programming language (e.g. C/C++, Java, Python)
Faculty of Physics

- Fluency in English, both written and verbal

How to apply

Applications and/or any questions should be sent electronically to Dr. Tomasz Trzcinski (Tomasz.Trzcinski@pw.edu.pl) and Dr. Lukasz Graczykowski (Lukasz.Graczykowski@pw.edu.pl). Please include the phrase 'Ph.D. student ALICE - ML' in the subject of your email.

Applications must include:
- CV of a candidate,
- copy of a M.Sc. Diploma (if available) and transcript of records,
- list of scientific achievements of the candidate, indicating his/her predispositions for research work (i.e. list of publications and presentations at conferences, information on participation in projects, activities in the student scientific associations, awards, etc.),
- a brief statement of research interests,
- a recommendation letter from a supervisor of the M.Sc. thesis, to be sent to: Tomasz.Trzcinski@pw.edu.pl and Lukasz.Graczykowski@pw.edu.pl.

Selection process

The final choice of candidates will be made on a competitive basis, based on assessment of research achievements, scientific skills and an interview with the best candidates. The successful candidate will have to go through the official recruitment procedure to the Doctoral School No. 3 at WUT.

This position will be open until filled. To receive full consideration, applications should be submitted by August 31st, 2020.

Please include in your CV the following statement:
„I hereby give consent to process my personal data included in the offer, for the purposes of the recruitment procedure, in accordance with the Personal Data Protection Act dated 29.08.1997 (Consolidated text: Journal of Laws of the Republic of Poland, 2016, item 922, as amended).“
Notice on protection of personal data:
Pursuant to Article 13 of the Regulation of the European Parliament and of the Council (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (hereinafter referred to as: "GDPR"), we inform you that:

- The Warsaw University of Technology, Pl. Politechniki 1, 00-661 Warszawa, Poland (further referred to as the „University”), is the administrator of your personal data. For further details on personal data processing you can contact the data protection officer: iod@pw.edu.pl
- Personal data of the candidates are processed for the purposes of carrying out the recruitment procedure.
- Members of the relevant recruitment committees are recipients of the personal data of the candidates.
- Personal data of the candidates will be processed until the recruitment procedure is concluded. Access to your personal data may have companies that Warsaw University of Technology commissions to perform activities that involve the processing of personal data. Your data will be deleted after 6 months.
- The candidates have the right to request from the University access to their personal data and the right to amend them.
- The candidate may at any moment withdraw the consent to process personal data. The data will then be irretrievably and effectively destroyed, so that they can no longer be accessed or reconstructed by any means, and the candidature shall not be further taken into account in the recruitment procedure.
- In any case, the candidate has a right to file complaint to the Inspector General for the Protection of Personal Data, Stawki 2, 00-193 Warszawa, Poland, phone: (+48) 22 531 03 00, fax: (+48) 22 531 03 01, e-mail: kancelaria@giodo.gov.pl