

## Netherlands:PhD candidate in Machine Learning and Deep Learning

The [Faculty of Science](#) holds a leading position internationally in its fields of research and participates in a large number of cooperative programs with universities, research institutes and businesses. The faculty has a student body of around 6,000 and 1,500 members of staff, spread over eight research institutes and a number of faculty-wide support services. A considerable part of the research is made possible by external funding from Dutch and international organizations and the private sector. The Faculty of Science offers thirteen Bachelor's degree programs and eighteen Master's degree programs in the fields of the exact sciences, computer science and information studies, and life and earth sciences.

Since September 2010, the whole faculty has been housed in a brand new building at the Science Park in Amsterdam. The installment of the faculty has made the Science Park one of the largest centers of academic research in the Netherlands.

The [Informatics Institute](#) is one of the large research institutes with the faculty, with a focus on complex information systems divided in two broad themes: 'Computational Systems' and 'Intelligent Systems.' The institute has a prominent international standing and is active in a dynamic scientific area, with a strong innovative character and an extensive portfolio of externally funded projects.

World-class research groups directly involved in deep learning are AMLAB (machine learning led by Prof. M. Welling), ISIS (computer vision led by Prof. C. Snoek), and ILPS (information retrieval led by Prof. M. de Rijke). Examples of industry funded research labs involved in deep learning are Qualcomm-UvA (QUVA) Lab (12 PhDs/Postdocs), Bosch-UvA DELTA Lab (11 PhDs/Postdocs), Philips Lab (4 PhD/Postdocs) and SAP-UvA Lab (3 PhDs/Postdocs).

### Project description

The PhD candidate will perform cutting edge research in AMLAB in the field of deep learning, zero/few-shot learning and explainable AI. The research topic is Deep Generative Models of Vision and Language for Explainable Few-Shot Learning, i.e. exploring the use of partial natural language descriptions of visual inputs to train generative vision and language models to help disentangle the salient features and simultaneously build robust representations for downstream tasks. In particular, we would like to focus on representations which enable learning in sparse data regimes, i.e. zero- and one-shot setting while being interpretable both visually and via natural language. Possible research directions are: Semi-Supervised Learning, Multi-Sentence Learning, Multi-Agent Dialogues, Representation Learning, Joint Low-Shot Learning.

The PhD candidate will be employed full time at UvA working with Prof. Max Welling (promoter) and Dr. Zeynep Akata (supervisor) in AMLAB. The research will be conducted in close collaboration with Dr. Nate Kushmann (co-supervisor) in Microsoft Research Cambridge. The PhD candidate could visit a Microsoft facility as part of conducting the research.

### Requirements

Master degree in Artificial Intelligence, Computer Science, Mathematics or related field;  
excellent programming skills: experience with deep learning toolkit helpful, e.g. Tensorflow  
solid mathematics foundations, especially statistics, calculus and linear algebra;  
background in machine learning: classes and ideally personal projects or work experience  
highly motivated;  
fluent in English, both written and spoken.

## **Further information**

Informal inquiries on the positions can be sent by email to:

[Zeynep Akata](#)

## **Appointment**

Starting date: as soon as possible.

The appointment will be full-time (38 hours a week) for a period of four years (initial employment is 18 months). Periodic evaluations will be held after 9 and 14 months, and upon positive evaluation, the appointment will be extended to a total of 48 months. The appointment must lead to a dissertation (PhD thesis). An educational plan that includes attendance of courses, summer and/or winter schools, and national and international meetings will be drafted for the PhD candidate. We also expect the PhD candidate to assist in teaching of undergraduate students.

The salary is in accordance with the university regulations for academic personnel. The salary will range from €2,222 (first year) up to a maximum of €2,840 (last year) before tax per month (scale P) based on a full-time appointment. There are also secondary benefits, such as 8% holiday allowance per year and the end of year allowance of 8.3%. The [Collective Labour Agreement for Dutch Universities](#) is applicable.

Among other things, we offer:

competitive pay and good benefits;  
top-50 University worldwide;  
one of the best deep learning ecosystems in the world;  
interactive, open-minded and a very international city;  
excellent computing facilities.

English is the working language in the Informatics Institute. As in Amsterdam almost everybody speaks and understands English, candidates need not be afraid of the language barrier.

## **Job application**

Applications may only be submitted by sending your application to [application-science@uva.nl](mailto:application-science@uva.nl).

To process your application immediately, please quote vacancy number 18-063. Applications must include a motivation letter explaining why you are the right candidate, curriculum vitae, (max 3 pages), a copy of your Master's thesis, a complete record of Bachelor and Master courses (including grades), a list of projects you have worked on (with brief descriptions of your contributions, max 2 pages) and the names and contact addresses of at least two academic references.

*Please do not send or copy your application to Prof. Max Welling or Dr. Zeynep Akata - they will get lost.*

All these should be grouped in one PDF attachment.

The Committee does not guarantee that late or incomplete applications will be considered. Applications not mentioning vacancy number and the title of the position you are applying for in the subject-line will not be processed.

**Tentative Submission Deadline : 9 March 2018**

[Further Information](#)