Doctoral or Early Postdoctoral Fellowship Position in Deep Learning for Genomic Sequence Data

The Working Group for Computational Statistics at the Ludwig-Maximilians-University Munich, led by Prof. Dr. Bernd Bischl, is looking for outstanding applications for a PhD or postdoc position.

The position is available for three years. The start date is January 1st, 2020 or later by agreement. The position is fully funded with payments and benefits according to German public service positions (PhD 100% TV-L E13, postdoc 100% TV-L E14; EUR 47k - 57k / year). The position will remain open until filled and only shortlisted candidates will be notified.

Project Description

One of the greatest challenges of biology is understanding the complex dynamics of the organization of the genome: the functional relevance of a substantial fraction of the genome still remains to be explored. In collaboration with the Helmholtz Centre for Infection Research (HZI) we try to gain greater insight into the genome by applying unsupervised and semi-supervised deep learning techniques to genomic data.

It is unclear which kind of deep learning models would be best suited to model this data. A major part of the project is therefore to use neural architecture search and hyperparameter tuning to find models that perform particularly well.

About the Working Group for Computational Statistics

The Working Group for Computational Statistics is a member of the Ludwig-Maximilians-University Munich (LMU) Department of Statistics, led by Prof. Dr. Bernd Bischl. The group conducts research in machine learning and is also specialized on meta-topics like automatic and interpretable machine learning. Prof. Dr. Bischl is also a director of the Munich Center for Machine Learning (MCML), one of Germany's recently established national competence centers for machine learning, and he leads the Munich branch of the ADA Center for applied Data Science in cooperation with Fraunhofer IIS.

The LMU regularly ranks as the highest German university in the Times Higher Education University Ranking and is receiving funding from the German University Excellence Initiative.
Your Profile:

- Degree (Master or PhD level) in computer science, machine learning, statistics, biostatistics, bioinformatics, or a related quantitative field
- Excellent knowledge of deep learning, ideally experience with sequential data
- Experience with deep learning frameworks (e.g. PyTorch, Tensorflow, or Keras)
- Strong programming skills (R, Python, or C++) and experience in working with high-performance computation
- Interest in working with genomic data
- Eagerness to work with, and, if postdoc, support and supervise a team of highly motivated PhD and graduate students
- Fluency in written and spoken English

Your Responsibilities:

- Active research and publications
- Constructing and improving software implementations
- Support in teaching in machine learning / deep learning
- Supervising students

What we provide:

- Stimulating environment with renowned scientists in the field of machine learning
- Live and work in Munich, rated by Mercer as the city with the highest quality of living in Germany, with a very active machine and deep learning community
- Access to state of the art high-performance computing clusters within LMU as well as the Helmholtz Zentrum for Infection Research

How to apply:

Please provide us with:

- A short statement letter informing us why you are a good candidate for the position (~ 1 page)
- A detailed CV, with special focus on: obtained degrees, taken classes in relevant topics, publications, programming skills / projects, track record
- Contact details of two or three academic referees

Interested applicants should send these documents in PDF format via email to: Martin Binder, martin.binder@stat.uni-muenchen.de, quoting “Application GenomeNet” in the subject.