

Position for Scientific Associate for the implementation of a cloud-based benchmarking platform for cellular deconvolution

The University Heidelberg is involved through the Health Data Science Unit (www.hdsu.org) in an international project funded by the European EIT Health program.

The goal of the COMETH project is to set up a benchmarking platform to perform cellular deconvolution i.e. determine cellular composition of patient samples from expression data (RNA-seq) or DNA methylation data. Within this project, we want to

1. Provide an easy-to-use and flexible online platform offering several state-of-the-art methods for cellular deconvolution
2. Test datasets with controlled cellular composition to allow benchmarking of the data.

This benchmarking platform will be based on the codalab system (<https://codalab.org/>) which has already been successfully used for several competitions and benchmarking efforts.

The partner from University Heidelberg will be in charge of implementing this platform on the de.NBI cloud environment, in order to provide a flexible and stable benchmarking framework for data analysts and interested clinicians. The tasks will involve

1. Implementing the codalab framework in the de.NBI cloud environment
2. Packaging the deconvolution tools using Docker containers
3. Providing test datasets for the benchmarking

Besides these technical tasks, the candidate might also contribute to methodological development such as the multi-omics deconvolution task incorporating expression and methylation data. This would be done in collaboration with other groups.

What we look for

We are looking for a candidate holding an M.Sc. or Ph.D in computer science or computational biology with experience in the implementation of bioinformatics tools and workflows in a cloud environment and interest in the processing of omics datasets. First experience with Docker containers would be appreciated. Collaborative skills are required.

What we offer:

This is a one-year position paid according to German TV-L 13.

Contacts

Please send your application to Carl Herrmann (carl.herrmann@uni-heidelberg.de) with CV and contacts for references.