Postdoctoral Researcher (f/m/d): Webportal development for optimization of SARS-CoV-2 testing strategies

The Center for Advanced Systems Understanding (CASUS) is a German-Polish research center for data-intensive digital systems research. We combine innovative methods from mathematics, theoretical systems research, simulations, data science, and computer science to provide solutions for a range of disciplines – materials science under ambient and extreme conditions, earth system research, systems biology, and autonomous vehicles.

CASUS was jointly founded in August 2019 by the Helmholtz-Zentrum Dresden-Rossendorf, the Helmholtz Centre for Environmental Research, the Max Planck Institute of Molecular Cell Biology and Genetics, the Technical University of Dresden and the University of Wroclaw. CASUS is located in the heart of Görlitz at the border between Germany and Poland. The CASUS start-up phase is hosted by the Helmholtz-Zentrum Dresden-Rossendorf and is financed by the Federal Ministry of Education and Research and the Saxon State Ministry of Science and Art.

The Earth System Science department seeks a postdoctoral researcher interested in designing an open and extensible web platform to identify optimal policies for using limited SARS-CoV-2 testing capacity.

Location of work is Görlitz, the working hours will amount to 39 h per week.

The position will be available from now. The employment contract is limited until 31.12.2022.

The Scope of Your Job

The postdoctoral researcher will be part of a team studying how to optimally deploy limited testing capacity in an emerging epidemic. This position will focus on developing an open web platform for test strategy optimization and modeling. The initial focus will be on the state of Saxony, with subsequent expansion to the rest of Germany and possibly other countries. The successful candidate will work closely with other team members that will develop the datasets, models, and optimization algorithms underpinning the web platform. The web platform will provide end users with flexibility to define their own optimization goals. Importantly, the platform must be produced with a continuous development/deployment strategy to make early versions available as soon as possible, with subsequent versions building in scope and refinement.

Your Tasks

- Develop an open web platform for constrained optimization of testing strategies;
- Employ continuous development/deployment strategies to make the platform available early and then expand it over time;
- Work directly with public health experts and other stakeholders to refine the platform;
- Work with our team to facilitate a coordinated approach to optimizing testing locations and strategies;
- Publish results in academic, peer-reviewed journals;
- Present results at scientific meetings

Your Qualifications

- Ph.D. in software development, computer science, or a related field;
- Excellent programming skills in languages such as R (and RShiny), Python, and Javascript;
- Strong motivation to work in a collaborative environment;
- Excellent communication skills in English;
- Experience in epidemiology and/or public health is advantageous but is not required

What We Offer

- A vibrant research community in an open, diverse, and international work environment
- Scientific excellence and extensive professional networking opportunities
- The employment contract is limited to three years with the possibility of longer-term prospects
- Salary and social benefits in conformity with the provisions of the Collective Agreement TvöD-Bund
- 30 vacation days per year
- Company pension scheme (VBL)
- A good work/life balance for which we offer assistance in the form of:
  - Possibility to work part-time
  - Flexible working hours
  - In-house health management

Application

Please submit your application (including a one-page cover letter, CV, academic degrees, transcripts, etc.) online on the HZDR application portal:

https://www.hzdr.de/db/Cms?pNid=490&pOid=61399&pContLang=en

Deadline:

Review of applications will begin on 24 August 2020, but the position will remain open until filled.

For details please contact:

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