

## **PhD Position (f/m/d) in “Optimizing Surgery Ward Resource Planning in Hospitals”**

### **Fulltime 100%**

Being “The Research University in the Helmholtz Association”, KIT creates and imparts knowledge for the society and the environment. It is the objective to make significant contributions to the global challenges in the fields of energy, mobility, and information. For this, about 9,000 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its students for responsible tasks in society, industry, and science by offering research-based study programs. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity, and the preservation of our natural basis of life. KIT is one of the German universities of excellence.

The Helmholtz Information & Data Science School for Health (HIDSS4Health) has been founded to promote and train young talents at the interface between data science and health-related applications. HIDSS4Health offers a structured doctoral training program which is embedded in a highly interdisciplinary research environment including researchers from Karlsruhe Institute of Technology (KIT), the German Cancer Research Center (DKFZ) and Heidelberg University aiming at bringing together experts from data and life sciences.

The Division II "Informatics, Economy, and Society" of KIT and HIDSS4Health offers a fully funded Ph.D. position in collaboration with the Taipei Medical University Hospital at the earliest possible date.

### **Job Description**

Effective resource planning in operating rooms in hospitals is challenging due to the dynamic nature of surgeries, varying complexities, and the need for skilled staffing. Balancing routine and complex cases, optimizing operating room utilization, and managing equipment pose significant challenges, especially when considering resilience in the face of unforeseen events such as mass casualty events. This project aims to address these challenges by analyzing medical data provided by Taipei Medical University Hospital, incorporating data analytic tools such as statistics and machine learning.

A fully funded research stay at Taipei Medical University Hospital in Taiwan can also be arranged upon request.

Your main tasks and responsibilities within this project are to:

- Conduct academic research which will lead to high quality scientific publications and the possibility of pursuing a Ph.D.

- Contribute to projects with academic and industrial partners, e.g. KASTEL, University Hospital Heidelberg, Taipei Medical University Hospital Taiwan, etc.
- Participate in the structured HIDSS4Health training program including basic and advanced lectures, seminars, workshops, and hackathons
- Exchange with other doctoral students in retreats and summer schools

### **Personal Qualification**

- We welcome any kind of Master's degrees with a quantitative focus, e.g., data science, operations research, business or data analytics, mathematics, etc.
- Expertise in applying data analytic tools
- Strong analytical skills
- Ability to collaborate with others and work independently, take initiative and show enthusiasm
- Good oral and written communication skills in English; German not required

We are looking for candidates with a strong drive and keen interest in conducting meaningful and innovative research. Female applicants are highly encouraged to apply.

### **We Offer**

We offer a fully funded 3-year research assistant (Ph.D.) position (with the possibility of extension) with a monthly salary according to the salary group EG 13 TV-L and the opportunity to join a young, international, and ambitious research group interested in societal relevant research topics. You will be guided through the doctoral research process and can participate in the qualification and career development courses of the Karlsruhe House of Young Scientists, where personal competencies are strengthened, and career paths are outlined.

### **Contract duration**

Three years

### **Application up to**

31.05.2024 or until position is filled

### **Contact person in line-management**

If you have any questions regarding the job position, please contact [emilia.grass@kit.edu](mailto:emilia.grass@kit.edu)

### **Application**

Applications with curriculum vitae, cover letter, and transcript of records should be sent in electronic form to: [emilia.grass@kit.edu](mailto:emilia.grass@kit.edu).

KIT is an equal opportunity employer. Women are especially encouraged to apply. Recognized severely disabled persons will be preferred if they are equally qualified. The processing of personal data by the Karlsruhe Institute of Technology (KIT) is carried out according to the Privacy Policy.