

PhD Position in Joint Prediction and Optimization (m/f/d)

(Pay group 13 TV-L, 100%)

We are looking for a doctoral student (m/f/d) in the field of operations & analytics (Prof. Dr. Jingui Xie) in the School of Management, TUM Campus in Heilbronn for a limited period of 3 years with possible extensions. The possibility of a doctorate is given and desired. The candidate is expected to construct a theoretical framework that integrates predictive analytics (i.e., statistical estimation or machine learning) and prescriptive analytics (i.e., mathematical programming or control theory) using innovative ideas such as robust optimization, and apply the new methodology in analyzing healthcare data to support decision makers.

About Us

The Technical University of Munich (TUM) is one of the top world universities. It is committed to excellence in research and teaching, interdisciplinary education and the active promotion of promising young scientists. The university also forges strong links with companies and scientific institutions across the world. TUM was one of the first universities in Germany to be named a University of Excellence. Moreover, TUM regularly ranks among the best European universities in international rankings.

TUM School of Management is redesigning its teaching and research in the field of Business Administration at the TUM Campus in Heilbronn in the light of the digital transformation. This is an once-in-a-lifetime opportunity, a chance for us to bring together unique expertise in analytics, big data, AI, and digitalization. The TUM Campus Heilbronn is an open, flexible organization whose goal is to achieve excellence in research, teaching and impact.

Our Requirements

The ideal candidate should have a strong interest in operations research and analytics with application in healthcare and a profound education in the following areas:

- Mathematical programming, optimization, operations research, industrial engineering,
- advanced applied probability and statistics, stochastic process, control theory,
- advanced econometrics, theoretical computer science, algorithm design,

as well as

- excellent programming skills, familiar with Python,
- data analysis experience and skills, and
- excellent English language skills.

You must (or will soon) have a master's degree relevant to your intended PhD specialization and from a university/department with a strong international research reputation. You must have a bachelor's degree with solid training in the above courses in a well-known institute.

We Offer...

- a full-time position as academic staff with the opportunity to pursue a doctoral degree, starting from the earliest date possible,
- the prospect to create and teach knowledge about current issues within the framework of digitization,
- an excellent working atmosphere in a success-oriented team, and
- the opportunity to experience and shape exciting research projects.

Your Tasks Include...

- constructing a theoretical framework that integrates predictive and prescriptive analytics,
- analyzing healthcare data to support decision makers; and
- teaching to the extent of 5 semester hours per week.

Application

Please send your informative application documents to the Technical University of Munich, TUM School of Management, Ms. Charlotte Koch, Bildungscampus 9, 74076 Heilbronn or by e-mail **no later than 15 October, 2021** to bewerbungen.cdt@mgt.tum.de quoting the keyword "Business Analytics". For any questions you may have, do not hesitate to contact Mr. Lou at zhiyuan.lou@tum.de.

If you apply in writing, we request that you submit only copies of official documents, as we cannot return your materials after completion of the application process.

Your application should include:

- Cover Letter (One page including GPA, GPA ranking (X/XX), university ranking for all degrees; a list of core and related courses to the program as well their grades; IELTS/ TOEFL/GRE scores; any other rewards and evidences).
- CV
- Degrees and transcripts
- IELTS/ TOEFL/GRE scores
- Reference letters (One letter of recommendation sending from an international scholar who knows you well and the names and e-mail addresses of two further referees (university professors))
- English writing sample
- Research proposal (about 2 pages) motivating your specific interest in the abovementioned position

The Technical University of Munich aims to increase the proportion of women and explicitly encourages applications from qualified women. Applications from disabled persons will be given preference in the case of essentially equal suitability and qualifications. The position can also be filled on a part-time basis. Employment is on a salaried basis, depending on qualifications, with remuneration in accordance with the collective wage agreement of the federal states (TV-L E13).

Data Protection

As part of your application, you provide personal data to the Technical University of Munich (TUM). Please view our privacy policy on collecting and processing personal data in the course of the application process pursuant to Art. 13 of the General Data Protection Regulation of the European Union (GDPR) at <https://portal.mytum.de/kompass/datenschutz/Bewerbung>. By submitting your application, you confirm to have read and understood the data protection information provided by TUM.

