An image of a page from a document discussing a PhD position on data-driven distributional inference for reliable control of complex systems. The page includes a job description detailing the need for decisions under uncertainty in control engineering and the challenges posed by complex systems and limited data. The project will leverage tools from state estimation and uncertainty quantification to fuse information from both data and known system dynamics, aiming to build robust uncertainty descriptions for reliable decisions and control. Related work and literature are cited, including references to previous research on data-driven ambiguity sets with probabilistic guarantees and high-confidence data-driven ambiguity sets for time-varying linear systems.


**Department**
The department Delft Center for Systems and Control (DCSC) of the faculty Mechanical, Maritime and Materials Engineering, coordinates the education and research activities in systems and control at Delft University of Technology. The Centers' research mission is to conduct fundamental research in systems dynamics and control, involving dynamic modelling, advanced control theory, optimisation and signal analysis. The research is motivated by advanced technology development in physical imaging systems, renewable energy, robotics and transportation systems.

**Requirements**
The ideal candidate has an MSc degree in systems and control, applied mathematics, mechanical or electrical engineering, computer science, or a closely related field with a strong background in mathematics and control. Further familiarity with topics like deterministic or stochastic state estimation, measure-theoretic probability, and functional analysis is an asset. The candidate is expected to perform interdisciplinary research across control theory, statistics, estimation, and optimization.

A good command of the English language is required.

**Conditions of employment**
TU Delft offers PhD-candidates a 4-year contract, with an official go/no go progress assessment after one year. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities, increasing from € 2395 per month in the first year to € 3061 in the fourth year. As a PhD candidate you will be enrolled in the TU Delft Graduate School. The TU Delft Graduate School provides an inspiring research environment with an excellent team of supervisors, academic staff and a mentor. The Doctoral Education Programme is aimed at developing your transferable, discipline-related and research skills.

The TU Delft offers a customisable compensation package, discounts on health insurance and sport memberships, and a monthly work costs contribution. Flexible work schedules can be arranged. For international applicants we offer the Coming to Delft Service and Partner Career Advice to assist you with your relocation.

**TU Delft (Delft University of Technology)**
Delft University of Technology is built on strong foundations. As creators of the world-famous Dutch waterworks and pioneers in biotech, TU Delft is a top international university combining science, engineering and design. It delivers world class results in education, research and innovation to address challenges in the areas of energy, climate, mobility, health and digital society. For generations, our engineers have proven
to be entrepreneurial problem-solvers, both in business and in a social context. At TU Delft we embrace diversity and aim to be as inclusive as possible (see our Code of Conduct). Together, we imagine, invent and create solutions using technology to have a positive impact on a global scale.

Challenge. Change. Impact!

Faculty Mechanical, Maritime and Materials Engineering

The Faculty of 3mE carries out pioneering research, leading to new fundamental insights and challenging applications in the field of mechanical engineering. From large-scale energy storage, medical instruments, control technology and robotics to smart materials, nanoscale structures and autonomous ships. The foundations and results of this research are reflected in outstanding, contemporary education, inspiring students and PhD candidates to become socially engaged and responsible engineers and scientists. The faculty of 3mE is a dynamic and innovative faculty with an international scope and high-tech lab facilities. Research and education focus on the design, manufacture, application and modification of products, materials, processes and mechanical devices, contributing to the development and growth of a sustainable society, as well as prosperity and welfare.

Click here to go to the website of the Faculty of Mechanical, Maritime and Materials Engineering. Do you want to experience working at our faculty? This video will introduce you to some of our researchers and their work.

Additional information

For more information about this vacancy please contact Dimitris Boskos, Assistant Professor, email: D.Boskos@tudelft.nl

Application procedure

If you are interested in this vacancy, please apply by June 15, 2021 via the application button and upload:

1. a letter of motivation (max two pages),
2. a detailed Curriculum Vitae,
3. contact details of two professional referees,
4. a list of courses with grades from your BSc and MSc program,
5. a summary of your MSc thesis, and
6. a list of publications (if any).

A pre-employment screening can be part of the selection procedure.

You can apply online. We will not process applications sent by email and/or post.

Acquisition in response to this vacancy is not appreciated.