TU Wien
Faculty of Informatics
Institute of Visual Computing & Human-Centered Technology
Research Unit of Computer Graphics

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PhD in Visual Analytics for Prescriptive Data Analysis

We are looking for a motivated Ph.D. candidate who wants to develop exciting visual analytics tools and techniques to develop the concept of prescriptive visual analytics.

Position: PhD-student
Irène Curie Fellowship: No
Department(s): Mathematics and Computer Science
FTE: 1,0
Date off: 30/10/2023
Reference number: V32.6877
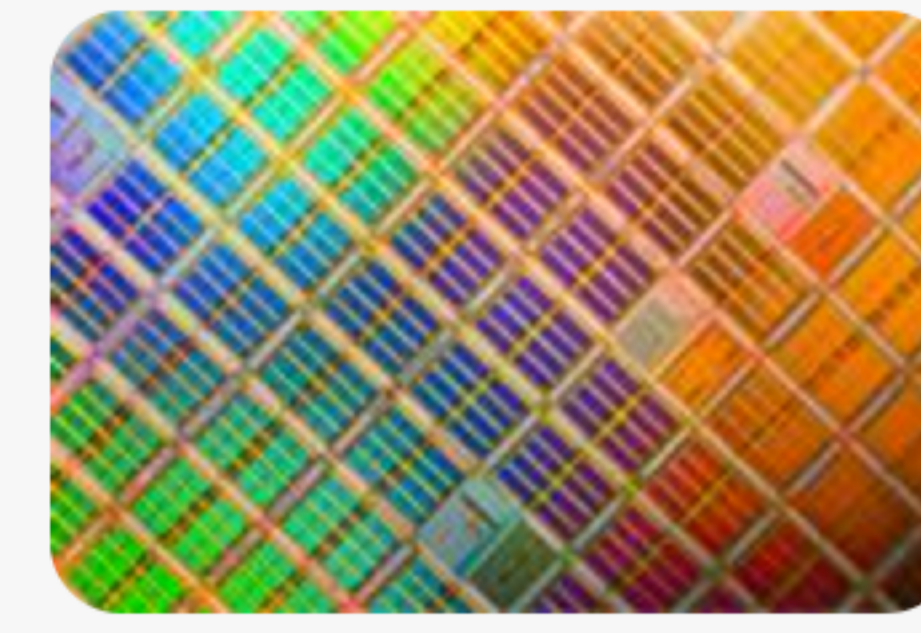
Job description

Advancing predictive analytics, which aims to answer the questions "What will happen?" and "Why will it happen?", prescriptive analytics focuses on transforming prediction insights into actionable recommendations to answer the questions "What should be done?" and "Why should it be done?". The core of prescriptive analytics involves different concepts, ranging from interpretable prediction models to optimization approaches to suggest the best actions based on a prediction and illustrate each action's implications into the predicted outcome.

In this project, the candidate will work to develop new visual analytics and visualization solutions that support the investigation and understanding of a prediction and allow for the representation of multiple actionable choices and their implications. The candidate will work on cutting-edge topics such as model interpretability and explainability, explainable machine learning visualization, intelligent agents, and predictive visual analytics, helping to reduce existing barriers and increase trust in the analytical process.

The candidate is expected to author high-quality scientific papers and showcase the outputs of this work at international conferences. The position will be with the Visualization cluster of the TU Eindhoven under the supervision of Dr. Fernando Paulovich. Opportunities for externships with international collaborators are also possible.

The visualization cluster (https://research.tue.nl/en/organisations/visualization) at TU/e has a strong track record in visualization and visual analytics for ML models and high-dimensional data. It has generated several award-winning contributions at major visualization conferences (IEEE VIS, IEEE InfoVis, IEEE VAST, EuroVis); several successful start-up companies (MagnaView, Process Gold, and SynerScope); and several techniques that are used on a large scale worldwide.

Job requirements

We are looking for a candidate who meets the following requirements:

- -MSc degree in computer science, computer engineering, or similar.
- Strong programming skills (e.g., Python, Javascript, etc.).
- Good communication skills and excellent command of English (Dutch is not required, although willingness to learn is highly appreciated).
- Capability and willingness to work independently and in an interdisciplinary team.
- Self-motivated, enthusiastic, proactive, goal-oriented, and persistent.
- A solid background in visualization, visual analytics, machine learning, and explainable AI, with strong mathematical affinity.
- Publications in top-tier conferences and journals of visualization will be considered additional advantages.

Conditions of employment

- Full-time employment for four years, with an intermediate evaluation (go/no-go) after nine months. You will spend 10% of your employment on teaching tasks.
- Salary and benefits (such as a pension scheme, paid pregnancy and maternity leave, partially paid parental leave) in accordance with the *Collective Labour Agreement* for Dutch Universities, scale P (min. €2,770 max. €3,539).
- A year-end bonus of 8.3% and annual vacation pay of 8%.
- High-quality training programs and other support to grow into a self-aware, autonomous scientific researcher. At TU/e we challenge you to take charge of your own learning process.
- An excellent technical infrastructure, on-campus children's day care and sports facilities.
- An allowance for commuting, working from home and internet costs.
- A Staff Immigration Team and a tax compensation scheme (the 30% facility) for international candidates.

Information and application

About us

Eindhoven University of Technology is an internationally top-ranking university in the Netherlands that combines scientific curiosity with a hands-on attitude. Our spirit of collaboration translates into an open culture and a top-five position in collaborating with advanced industries. Fundamental knowledge enables us to design solutions for the highly complex problems of today and tomorrow.
Curious to hear more about what it's like as a PhD candidate at TU/e? Please view the video.

Information

Do you recognize yourself in this profile and would you like to know more?
Please contact the Please contact Dr. Fernando Paulovich, email f.paulovich[at]tue.nl, and our Visualization website.

Visit our website for more information about the application process or the conditions of employment. You can also contact HRServices.MCS[at]tue.nl.

Are you inspired and would like to know more about working at TU/e? Please visit our career page.

Application

We invite you to submit a complete application by using the 'apply now'-button on this page.

The application should include a:

- Cover letter in which you describe your motivation and qualifications for the position.
- Curriculum vitae, including a list of your publications and the contact information of three references.
- The full transcripts of your Bachelor's and Master's degrees.
- Brief description of your MSc thesis.

We look forward to your application and will screen your application as soon as possible.

The vacancy will remain open until the position is filled. Selected candidates may be invited for an online interview and on-site visits to TU/e. For selected candidates, original degrees or certified copies will be requested at a second stage.

We do not respond to applications that are sent to us in a different way.

Please keep in mind that you can upload only 5 documents up to 2 MB each. If necessary, please combine files.