Our team is currently looking for a researcher working full-time on the topic

**Dynamic 3D Perception**

**Your Task**
While the production of European industries increasingly automated specific tasks requiring complex manipulation skills are still mostly produced by hand. The EU-funded project *Robotic Technologies for the Manipulation of Complex Deformable Linear objects (REMODEL)* aims at developing a dual-arm manipulator for automated production and assembly of deformable linear objects (DLOs), such as cables, wire harnesses and hoses. You will collaborate closely with application experts from industry and partners from leading European research institutes to develop a multi-sensor 3D perception system, allowing to manipulate DLOs in real-time. This includes:

- Working in close collaboration with partners from industry to define requirements for the system in real production
- Designing and building a perception system composed of static and eye-in-hand depth sensors and cameras, allowing real-time data fusion for industrial systems and processes
- Creating algorithms to find optimal view perspectives for hand-held sensors during manipulation
- Developing a prediction model for the manipulation of DLOs

**Requirements**
- Excellent master’s degree in Computer Science, Math, Robotics or a related field
- Good knowledge of basic concepts and the current state of the art of computer vision and machine learning
- Professional proficiency in at least one common programming language (preferably C/C++ and Python)
- At least basic experience in the fields of motion planning, SLAM and/or tracking
- Experience with ROS or GPU programming is of advantage
- Excellent writing skills and a self-reliant well-organized style of working are essential
- High motivation, strong communications skills and high team spirit

**What We Offer**
- Opportunity to obtain a Ph.D.
- Employment as a research associate (TV-L E13) in a fulltime position (fixed-term contract)
- Guaranteed funding to finalize a Ph.D. in four years
- An open and innovative working environment at one of Europe’s top universities
- Working in a diverse research group in robotics with topics ranging from autonomous driving and industrial automation to biomimetic robotics and brain-inspired technologies

**About Us**
The Technical University of Munich (TUM) is one of the largest and in terms of third party funding one of the most successful universities in Germany. It is consistently ranked among the best universities in the world and is appointed as one of only three top-level elite universities by the German National Science Foundation since 2006. TUM as an entrepreneurial university actively supports knowledge transfer with over 300 start-ups created over the last years, numerous partnerships with industry and a comprehensive set of services aimed at successful commercialization of research. The Chair of Robotics, Artificial Intelligence and Real-time Systems led by Prof. Alois Knoll performs research in fields of human robot interaction and service robotics, medical robotics, cognitive robotics and cyber-physical systems. Across all these areas, there is a strong focus on the development and application of AI-based methods ranging from traditional machine learning to brain-inspired methods and neuromorphic computing.
Application
We are looking forward to receiving your application. The earliest starting date is **February 1st, 2020.** Applications will be considered as long as the position is open and should include:

- A letter of motivation that describes your professional experience, your interest in the topic and why you think that you are a good fit for the topic and our team
- A detailed up-to-date CV that includes completed projects and publications
- Transcripts of record of your Bachelor’s and Master’s degree
- Names and e-mail addresses of at least one professor that can provide a letter of recommendation on request

Please submit all documents in a single PDF via e-mail to arne.peters@tum.de. Use the subject “REMODEL Recruitment”. Alternatively, you can submit the documents by mail to the address below.

TUM has been pursuing the strategic goal of substantially increasing the diversity of its staff. As an equal opportunity and affirmative action employer, TUM explicitly encourages nominations of and applications from women as well as from all others who would bring additional diversity dimensions to the university’s research and teaching strategies. Preference will be given to disabled candidates with equal qualifications. International candidates are highly encouraged to apply.

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Data Protection Information
When you apply for a position with the Technical University of Munich (TUM), you are submitting personal information. With regard to personal information, please take note of the Datenschutzhinweise gemäß Art. 13 Datenschutz-Grundverordnung (DSGVO) zur Erhebung und Verarbeitung von personenbezogenen Daten im Rahmen Ihrer Bewerbung (data protection information on collecting and processing personal data contained in your application in accordance with Art. 13 of the General Data Protection Regulation (GDPR)). By submitting your application, you confirm that you have acknowledged the above data protection information of TUM.