Max Planck Institute for Intelligent Systems

Research Engineer (m/f/div)

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Stellenbeschreibung

The Max Planck Institute for Intelligent Systems is a leading international research institute dedicated to exploring the fundamental questions of artificial intelligence and robotics.

The Optics & Sensing Laboratory (OSLab) at the Max Planck Institute for Intelligent Systems in Tübingen (Germany) has an open position for a

Research Engineer (m/f/div)

We are supporting the development of highly realistic human and animal avatars for use in research, film, virtual reality, biology and medicine. Using unique 3D & 4D capture facilities, machine learning, computer vision and advanced graphics, we are modeling humans and animals shape and behavior. In the NICE Toolbox project, we build software for non computer scientists to support the exploration of non-verbal communication by detecting visual movements and behaviors of humans in videos. The aim is to foster better understanding of social interactions and communication patterns between people.

Roles & Responsibilities

We are looking for a research engineer to lead the development and extension of Non-verbal Interpersonal Synchrony Communication Exploration Toolbox. The candidate will work in collaboration with researchers from industry and engineers in computer vision. They are expected to have strong skills in software design and development as well as experience in computer vision and machine learning.

The candidate will be responsible for leading the following main project parts:

1. Development, support, and application of open-source computer vision software toolbox: https://github.com/OSLabTools/nicetoolbox
2. Extension of the aforementioned software for human-to-avatar communication, including creation of data assets and experiments for comparison and analysis
3. Invest in existing and new collaborations with researchers and practitioners in psychology, psychotherapy, social machine learning, and related fields

Your tasks will be to:

- Maintain, extend, and test the developed software, e.g., using continuous integration (CI)
- Enhance body tracking, facial expression, gaze intersection algorithms
- Develop evaluation pipelines and tools in the field of computer vision and data processing
- Publishing open-source datasets and software tools available for the scientific community
- Develop novel capturing systems to record data on human-to-avatar communication
- Foster the development of communication quality analysis tools in collaborations with research and industry partners
- Oversee and support student assistants who are involved in this project
- Contribute to grant writing/application to expand and continue the project beyond the one year period

Anforderungsprofil & Qualifikationen

Education & Experience

- Preferably PhD degree or MSc and strong academic background in the field of computer visionand machine learning
- Strong programming skills including but not limited to Python, CMake, OpenCV, PyTorch, Streamlit, and ReRun
- Experienced in deep learning frameworks
- Experienced with data acquisition from sensors (e. g., biofeedback, IMUs, pressure sensors, and eye-tracker)
- Experienced with software engineering methods and paradigms, including but not limited to continuous integration, unit tests, OOP, and git (e. g., issues, MRs, rebasing, code reviews)
- Good oral and written communication skills in English
- A natural team player and detailed-oriented person

Our offer

- Working in a multidisciplinary collaborative project at MPI for Intelligent Systems (Tübingen)
- Cutting-edge technologies related to computer vision and multi-sensor system

- An open-minded and motivating working environment with international scientists, engineers and administrative staff
- The salary is paid in accordance with the collective agreement for the public sector (TVöD Bund) and the collective agreement on the federal pay scale (TV EntgO-Bund), according to your qualifications
- We provide a subsidy for the Deutschland-Jobticket (ÖPNV)
- Our connection to a day care center and the possibility of mobile working help you to reconcile family and career.
- The position is for 1 year with the possibility to extend

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. The Max Planck Society strives for gender equality and diversity. Furthermore, the Max Planck Society seeks to increase the number of women in its workforce in those areas where they are underrepresented and therefore explicitly encourages women to apply.

Application

Please upload your application files including

- One-page motivation letter explaining why you are a good fit for this position
- Curriculum Vitae (with 3 references listed)
- GitHub account showing us your programming skills

via our application portal.

Any questions regarding the position should be forwarded to Dr. Senya Polikovsky at senya.polikovsky@tuebingen.mpg.de or Dr. Keiko Kitagawa at keiko.kitagawa@tuebingen.mpg.de.

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Vorteile für Mitarbeitende

- Flexible Arbeitszeit

- Mentoring-Programm
- Home Office

Stellenmerkmale

Beschäftigungsart	**Absolvent:innenjob**
Beschäftigungsumfang	**Vollzeit (befristet)**
Home Office	**Nein**
Bewerbungslink	**https://formular.as-mediendesign.de/link/216db3e8-34459-386-2df3fb.html**

Kontaktdaten

Firma/Hochschule	**Max Planck Institute for Intelligent Systems**
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