PhD position in LITIS at Université Rouen Normandie, France

Design and prototyping of a multimodal system for Visually Impaired displacements assistance.

The LITIS laboratory at the University of Rouen is looking for a candidate for a 3-year PhD, funded by the ANR (National Agency for Research), around the design and prototyping of a bio-inspired vision system for assisting indoor and outdoor mobility of visually impaired people (VIP).

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Start: as soon as possible (April 2022 latest)

Keywords: navigation (indoors and outdoors) and its bio-inspired foundations, computer vision, localization and tracking, multimodal data and their fusion, mobility assistance of visually impaired people (VIP).

Scientific program: The national project "SAM-Guide: Spatial Awareness from Multimodal guidance" (2021-2025) brings together computer science research teams (LITIS/URN, CerreV (Centre de Recherche Risques & Vulnerabilities /UCN, GIPSA-Lab/UGA, LPNC/UGA, and CMAP/Ecole Polytechnique) around the navigation indoor and outdoor of VIP. The project aims to rethink travel assistance in an "inclusive" approach, i.e. suitable for sighted people and VIP.

The targeted approach could be based on (1) the audio-tactile maps displayed on an original haptic device under development at Rouen University, and (2) on the navigation of mammals (specific cells of the hippocampus).

The PhD candidate will be responsible for proposing the model of such mobility, defining multimodal data acquisition and fusion protocols (vision, IMU, Galileo, etc.), and designing, prototyping and validating (in particular with end users) different vision and data fusion algorithms constituting the technological base of the project.

Skills required: The candidate must have a Master level degree with skills in vision (for robotics), robotics (e.g. navigation, design and prototyping of mechatronic systems such as force feedback systems), image processing and computer engineering (programming, algorithms).

Apply.

The application must be sent by email, including a detailed CV, a cover letter, transcript of records (masters 1 & 2) and the names of two people to contact (from the master's team). An (e-)interview will be offered if the candidate's profile appears to meet expectations.

Please include in your application within one pdf-file sent by e-mail to Edwige.Pissaloux@univ-rouen.fr**,** katerine.romeo@univ-rouen.fr

Work environment:

The PhD, funded by the ANR SAM-Guide project, will take place in the LITIS laboratory, located on the Madrillet campus of the University of Rouen Normandy, France. The doctoral student will integrate the STI (Intelligent Transport System) team, which constitutes an international multidisciplinary environment allowing interaction and collaboration with recognized experts in the fields underlying the ANR project.

Scholarship/ month 2,1K€ charge included durant 3 ans