we plan to analyze. This involves tasks related to dataset processing, enrichment and modeling as well

Building on that knowledge, this Post-Doctoral research aim at:

perspectives.

behaviors), ii) small-N data on specific features of smartphone use, and iii) disciplinary-specific

Current knowledge is fragmented because of the tendency of previous research to focus on: i) the

Thus, the main goal of this Post-Doctoral research is to improve network perception of users

Mission confiée

The 450 researchers and engineers from Inria and its partners who work in the research centre's 31
teams, the 100 research support staff members, the high-level equipment at their disposal (image
walls, high-performance computing clusters, sensor networks), and the privileged relationships with
prestigious industrial partners, all make Inria Saclay Île-de-France a key research centre in the local
landscape and one that is oriented towards Europe and the world.

Contexte et atouts du poste

Todays' smart handheld devices allow heterogeneous free data gathering of human surrounding
environment and networking usage patterns anytime and anywhere. Hence, an unprecedentedly
large amount of human sensory data (i.e., the Big Data era) can be collected and processed: opening
ways to connect people, technology, and business. This big data implies advanced knowledge of
humans' behaviour and interactions at a planetary scale and can help tackle networking challenges
when used correctly. As our lives become more dependent on connectivity, it is easier to see that
people have become eager to engage with mobile applications and connected services. Still, as
more mobile-connected devices enter the market, the way people, processes, data, and things
intelligently connect - the Internet of Everything (IoE) - will change everything about how we
use/interact to the network and live our lives. Only technological advances will not be enough to deal
with the new emerging challenges imposed by IoE. The ability to understand people behavior and to
develop models across complex, interconnected systems is at the core of the required ability to
uncover new insights and solutions in the IoE. Nevertheless, there is still a big gap between the way
networking solutions are designed (e.g., usually limited to the needs of service providers or types of
application) and the everyday behavior or needs of users. Many of them are designed to adapt to
network conditions (e.g., physical link conditions, topology changes) and are protocol or service
specific (e.g., successful delivery of messages, geographical network coverage). Hence, they are very
often oblivious to users behavior and current needs.

Further information: https://team.inria.fr/infine/when-networking-meets-sociology/

Mission confiée

Thus, the main goal of this Post-Doctoral research is to improve network perception of users
surrounding and behavior, allowing then the design of more tactful networking systems (i.e., to add
perceptive senses to the network, by assigning it with the human like capabilities of observation,
interpretation, and reaction to daily life features and involved entities). For this, we need to
understand (1) how, where and for what they are used, (2) how the uses of smartphones vary, as well
as (3) how the psycho-social behavior of smartphone usage operates.

Principales activités

Current knowledge is fragmented because of the tendency of previous research to focus on: i) the
study of specific behavior of smartphone use (ignoring thus complex interactions between
behaviors), ii) small-N data on specific features of smartphone use, and iii) disciplinary-specific
perspectives.

Building on that knowledge, this Post-Doctoral research aim at:

- motivation letter (explaining why the selected topic, how do you think
  you can fit the topic, what are your motivations for the topic compared
  to your previous work, etc)
- 2 recommendation letters
- perspective of professional insertion after the
  post-doc

Sécurité défense:

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie
dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et
technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef
d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03
juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une
ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement:

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en
situation de handicap.
second, tactful networking has its basis on the capability of predicting (e.g., mobility, interests, type and demand of content, a person openness to new experiences and information, etc). Nevertheless, a particularity of predictive models is their over-reliance on past events and trends to predict future ones. Hence, one drawback is their inability to predict new behavior or uncertain events (e.g., predicting new places or changes in users’ trajectories in case of random events) or still to capture the “exploration to new things” aspect of human. Building on the extracted knowledge described here above, this Post-doc research aim then to model the exploration pattern of people (i.e., some people are more prone to present uncertain behavior than others). The exploration pattern will thus feed our predictions models and better adjust accuracy.

**Compétences**
Candidates are expected to have a strong background in one or more of the following fields: mobile communication networks, data mining, machine learning, statistical analysis, clustering algorithms, context and content modeling, algorithm design and implementation, scripting.

Requirements for this position also include:
- a PhD in a field related to the position topic
- an outstanding publication record in top-tier conference and journals
- fluency in written and spoken English.

**Avantages sociaux**
- Subsidised catering service
- Partially-reimbursed public transport
- Social security
- Paid leave
- Flexible working hours
- Sports facilities

**Rémunération**
2.653 euros brut/mois