knowledge extraction. Involve tasks related to dataset processing, enrichment and modeling as well as data analysis of an original and extensive smartphone usage datasets that we plan to analyze. This thesis will thus provide a comprehensive account that improves on each of the above limitations. This is possible with the help of 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. As a consequence, smartphones have turned from a means of communication to a tool with high potential impact on the social integration of individuals in contemporary societies. They have changed the cultural norms and behavior of individuals, bringing positive (e.g., by simplifying information access all the time) with potential of facilitating better education systems in developing countries; by shortening geographical distances, social bonds are kept active, reducing stress while promising social support for what they are used, (2) how the uses of smartphones vary, as well as (3) how the psycho-social behavior of smartphone usage operate. The PhD thesis aims will be to expand our knowledge of how, where and when used correctly. As part of its diversity policy, all Inria positions are accessible to people with disabilities.

Assignment
Thus, while examples of benefits of their usage can be easily found, smartphones are not a guarantee of social integration even if an enable whose impact depends on how it is being used. To understand how smartphones enable and constrain social integration, 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 operate. The PhD thesis aims will be to expand our knowledge of smartphone usage; to connect that knowledge to the impact on social integration; and to provide policy recommendations on infrastructure and technological design development to improve and expand the social integration of individuals.

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 PhD thesis aim to contribute a uniquely comprehensive account that improves on each of the above limitations. This is possible with the help of an original and extensive smartphone usage datasets that we plan to analyze. This thesis will thus involve tasks related to dataset processing, enrichment and modeling as well as data analysis and knowledge extraction.
Main activities
The outcome of the thesis would be to build on the acquired human knowledge and technology usability to provide policy recommendations on infrastructure and technological design development to improve and expand the social integration of individuals.

Skills
Candidates must have a Master of Science or equivalent degree in Computer Science or Electrical Engineering. The ideal candidate has a strong background on machine learning, protocol design, scripting, statistics, and data mining. Knowledge of social networking, or complex networks is a plus. Candidates must be fluent in written and spoken English.

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