Post-doc position in Privacy

Moving forward: understanding how location data influences personalized content in the mobile context

As the profiling has become the norm on the Internet, the personal data of users is massively collected without the consent of the individuals concerned [EN16]. However, determining which information is exactly gathered and how it is exploited remain a challenging issue [DTD15]. This lack of transparency coupled with the emergence of controversial practices such as discrimination [HSL+14] raises serious concerns. While the location data of users seems to play a fundamental role, the root-causes of these discriminations remain poorly understood.

In addition, as mobile devices have been adopted at a large scale during these last years, most of the interactions between users and online services are now done through their mobile devices. Consequently, the location data of users is obviously part of the tracking [ABC+13], ASF+15, EAS+17]. Recent works in the literature have demonstrated that mobility is a very rich contextual information in the sense that it has a strong inferential potential in terms of information that can be revealed about the individuals whose movements are recorded [GKC13, F15, RKC+16].

With respect to targeted advertising, the lack of transparency of such systems has been highlighted by recent studies [MST+16]. Furthermore, several initiatives have been launched to infer the behavior of targeted and personalized engines to detect discriminations [TAG+17]. While the location information seems to play an important role in price personalization [MGE+12, HSL+14], how the location of users is used in practice by the actors of targeted advertising ecosystem remains unclear.

This work aims to at increasing the transparency of targeted advertising and personalized services in the specific context of mobile computing. More precisely, we investigate how the location data of users is processed for generating personalized contents and advertisements for mobile devices.

To achieve this objective, we seek to develop two complementary axes. The first axis aims at raising the user awareness on the potential sensitivity associated to the collection and the exploitation of location data. More precisely, we will develop a mobile application analyzing the location tracking to inform users with respect to the information (e.g., mobility patterns, interests, activities, ...) that can be inferred from the gathered data. The second axis will conduct an in-depth analysis on how the location data is processed to produce the personalized service. To realize this, we will explore the impact of mobility on personalization and discrimination.

Inria, the French national institute for research in computer science and control, is dedicated to fundamental and applied research in information and communication science and technology (ICST). Inria has a workforce of 3,800 people working throughout its eight research centers established in seven regions of France. The post-doc will integrate the Inria Privatics research group at Lyon (France). This position is available for 12 months, **starting as soon as possible** (ideally before the end of 2017). The salary is 2,620 euros gross per month (including medical insurance).

You should fulfill the following requirements: a PhD degree, an excellent research record related to pertinent topics and outstanding social skills. Fluent command of English is indispensable, at least basic command of French is very welcome but not necessary.

Please send a CV and a detailed letter of motivation to antoine.boutet@insa-lyon.fr. The CV should contain links to any published papers. The letter of motivation should describe the applicant's background in the areas related to this position, reason for interest in this work, and future plans. The application should be accompanied by 2-3 contacts for recommendation. Applications will be considered as they are received.

Bibliography

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