Review on "The best privacy defense is a good privacy offense: obfuscating a search engine user's profile"

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Since the growth rate of the Internet is almost exponential, it has a drastic effect on people's lives even the ones who do not use it. Such effect is accompanied with many issues such as user privacy. It is not settled until now how service providers are allowed to use stored information of the users and compromise their privacy. Jörg Wicker and Stefan Kramer introduce a tool that utilizes machine learning and data mining to confuse search engines to protect the user's privacy by obfuscating exploited personal information. Not only methods are introduced for such technique, but also an experiment to evaluate its results indicating whether this approach should be investigated further.

Keyword1 | Keyword2 | Keyword3

Abbreviations: SAM, self-assembled monolayer; OTS, octadecyltrichlorosilane

Introduction

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$$\frac{D\theta}{Dt} = \frac{\partial\theta}{\partial t} + u \cdot \nabla\theta = 0 \qquad [\mathbf{1}]$$

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Results

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Simulations.

Simulation 1

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Simulation 2

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Reserved for Publication Footnotes

Discussion

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Materials and Methods

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Definition 1. *A bounded function θ is a weak solution of QG if for any $\phi \in C_0^\infty(\mathbb{R}/\mathbb{Z} \times \mathbb{R} \times [0,\varepsilon])$ we have*

$$\int_{\mathbb{R}^+\times\mathbb{R}/\mathbb{Z}\times\mathbb{R}} \theta(x,y,t)\,\partial_t\phi\,(x,y,t)dydxdt + \\ + \int_{\mathbb{R}^+\times\mathbb{R}/\mathbb{Z}\times\mathbb{R}} \theta\,(x,y,t)u(x,y,t)\cdot\nabla\phi\,(x,y,t)dydxdt = 0 \quad \textbf{[2]}$$

where u is determined previously.

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Theorem 1. *If the active scalar θ satisfies the equation* **[2]**, *then φ satisfies the equation*

$$\begin{aligned}\frac{\partial\varphi}{\partial t}(x,t) &= \int_{\mathbb{R}/\mathbb{Z}} \frac{\frac{\partial\varphi}{\partial x}(x,t) - \frac{\partial\varphi}{\partial u}(u,t)}{\left[(x-u)^2 + (\varphi(x,t)-\varphi(u,t))^2\right]^{\frac{1}{2}}} \\ &\quad \chi(x-u,\varphi(x,t)-\varphi(u,t))du \;+ \\ &+ \int_{\mathbb{R}/\mathbb{Z}} \Big[\frac{\partial\varphi}{\partial x}(x,t) - \frac{\partial\varphi}{\partial u}(u,t)\Big] \\ &\quad \eta(x-u,\varphi(x,t)-\varphi(u,t))du + Error \quad \textbf{[3]}\end{aligned}$$

with $|Error| \le C\,\delta|log\delta|$ where C depends only on $\|\theta\|_{L^\infty}$ and $\|\nabla\varphi\|_{L^\infty}$.

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Appendix

An appendix without a title.

Appendix: Appendix title

An appendix with a title.

ACKNOWLEDGMENTS. This work was partially supported by a grant from the Spanish Ministry of Science and Technology.

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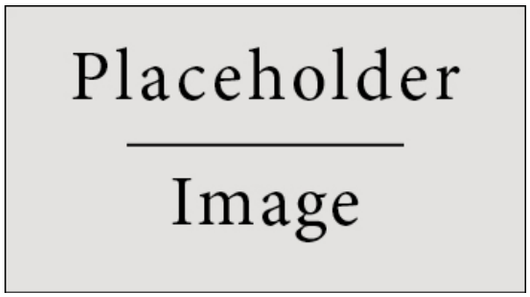

Fig. 1. Figure caption

Table 1. Table caption

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296