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| Title | [A brain-inspired trust management model to assure security in a cloud based IoT framework for neuroscience applications](https://link.springer.com/article/10.1007/s12559-018-9543-3) | | |
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| Published Journal Name | Cognitive Computation | | |
| Type of Publication | Journal | | |
| Volume | 10 | Issue | 5 |
| Publisher | Springer US | | |
| Publication Date | 10/2018 | | |
| ISSN |  | | |
| DOI |  | | |
| URL |  | | |
| Other Related Info. |  | | |
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| Abstract |  |
| Rapid popularity of Internet of Things (IoT) and cloud computing permits neuroscientists to collect multilevel and multichannel brain data to better understand brain functions, diagnose diseases, and devise treatments. To ensure secure and reliable data communication between end-to-end (E2E) devices supported by current IoT and cloud infrastructure, trust management is needed at the IoT and user ends. This paper introduces a Neuro-Fuzzy based Brain-inspired trust management model (TMM) to secure IoT devices and relay nodes, and to ensure data reliability. The proposed TMM utilizes node behavioral trust and data trust estimated using Adaptive Neuro-Fuzzy Inference System and weighted-additive methods respectively to assess the nodes trustworthiness. In contrast to the existing fuzzy based TMMs, the NS2 simulation results confirm the robustness and accuracy of the proposed TMM in identifying malicious nodes in the communication network. With the growing usage of cloud based IoT frameworks in Neuroscience research, integrating the proposed TMM into the existing infrastructure will assure secure and reliable data communication among the E2E devices. | |