WWTF Project ICT12-054

The Information Bottleneck Principle in Multiterminal Communication and Inference

Zusammenfassung

Wireless networks are pervading our everyday lives. We use mobile smart phones in cellular systems, connect notebook and tablet computers to WiFi hotspots, couple our consumer electronic devices via Bluetooth, and take it for granted that our TV and radio programs are distributed via terrestrial and satellite wireless networks. Less apparently, networks of sensors monitor our environment, buildings, and industrial facilities. In the near future, the "Internet of Things" will connect our domestic appliances, vehicles, and all kinds of gadgets. In order to deal with the data deluge caused by all these networks, the project TINCOIN aims at establishing a radically new approach to wireless network design based on the recent information bottleneck principle in which data is heavily compressed and only relevant information is preserved.

Keywords:
information bottleneck, sensor networks, cooperative communication, wirelessnetworks, source coding, data compression

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Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://archiv.wwtf.at/programmes/information_communication/ICT12-054