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EMERGING BIO-MEDICAL APPLICATIONS AND OPEN RESEARCH CHALLENGES IN COGNITIVE INTERNET OF THINGS (CIoT)

Dr.C.Amuthadevi^{1*}, Dr.S.Gayathri Monicka^{2*}

^{1*}Department of Computer Science and Engineering, Misrimal Navajee Munoth Jain Engineering College, Chennai, Chennai, Tamilnadu.

^{2*}Department of Electrical and Electronics Engineering, Adhi College of Engineering and Technology, Chennai, Tamilnadu.

Email: camuthadevi@gmail.com

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Abstract

Internet of Things (IoT) got attention to many of the researchers because of the technology developments/ innovations in the networks/ communications. Now a day, faster connectivity is provided by many internet service providers. Any physical or virtual object is embedded with small device(s) to make them as inter-connected. IoT is the extension of internet, wireless sensor networks and mobile devices. Introducing cognitive abilities in IoT makes introduction of smarter or intelligent applications/services and provides wider paths for current and future researches including healthcare and telemedicine and tele-surgery applications. In this paper, the emerging trend named 'Cognitive IoT' is discussed to clearly define the demand, services and the open challenges.

Keywords: Internet of Things, Cognitive Systems, Cognitive IoT, Intelligent decision making, Healthcare, Bio-Medical Applications

I. Introduction

In this era, the academic institutions, industry people, scientists, business transactions, social media etc are using the internet and expects faster connection. This is achieved because of the evolution of internet and improvement in the communicating devices. Even a common man started communication with others using the internet [1]. Different kinds of computing/mobile devices are connected in most of the times and exchange vast amount of information. The connection speed variation occurs because of the selection of the Internet Service Providers (ISP) [15]. Internet connection provides only inter-connectivity among devices and does not provide any computing. Many IoT applications are depending on human involvement for smart decisions.
