

Preface

While writing this, I am listening to music streaming over a cloud provider to my wireless headphones. The passage of connection is through multiple networks, Wi-fi to the local home network that passes through an internet gateway through the Internet service provider and to the music streaming service hosted on the subscribe service cloud datacenter. The return connection passed from the mobile phone to the Bluetooth headphones in milliseconds. If I move to another room or building, the connection automating switches to an available mobile cellular connection service provider and the music continues as I move around. The mobile application is making recommendations alongside each music track I play. It suggested music bands that I have never listened to or seen before. I click on the link and soon hear a similar sounding track. How is it doing this? Matching similar music could be done in several ways. Machine learning is a phrase used in this context that may operate by processing patterns of sound that follows similar characteristics processing the cloud streaming music library to match similar music. On the other hand, matching could be through human recommendations that seeks to crowd source the knowledge of hundreds or thousands or even millions of previously played tracks and preferences, their likes and dislikes, and comments. This could equally be manipulated by human curated tracks choreographed to provide recommendations or codified into the machine algorithms to promote preferences.

This machine intelligence could be used to combine both machine and human preferences to select music tracks that match my preferences. Algorithms play a role in everyday experience, the intelligence in the telecommunications network switching to optimize the service across distributed locations.

In background, the mobile phone device is also managing its battery energy through algorithms that make localized decisions to optimize the battery life and update GPS location tracking. At any given moment, this mobile device might be interacting with me in an active manner, or passively working in the background across many events and services of which I may be unaware. To a member of the public this behavior may appear as both magical and bewildering at the same time. This challenges the definition of what is “the self”, freedom and individual choice, and the rapidly evolving role that human-to-machine, and machine-to-machine, interfaces play in our lives.

As human beings, we interact with machines and objects in our environment on a daily basis, and we are just beginning to appreciate the ever-increasing role that machine intelligence plays in that experience. But this story is only part of a much wider transformation in the nature of living, society, and the impact on personal enterprise strategic issues in the twenty-first century.

Warwick, UK
May 2017

Mark Skilton
Felix Hovsepian

The 4th Industrial Revolution

Responding to the Impact of Artificial Intelligence on
Business

Skilton, M.; Hovsepian, F.

2018, XXXV, 322 p. 35 illus., Hardcover

ISBN: 978-3-319-62478-5