



Artificial Intelligence And Redundant Specialties

Peer review status:

No

Corresponding Author:

Dr. Deepak Gupta,
Anesthesiologist, Wayne State University, 48201 - United States of America

Submitting Author:

Dr. Deepak Gupta,
Anesthesiologist, Wayne State University, 48201 - United States of America

Other Authors:

Dr. Sarwan Kumar,
Assistant Professor, Internal Medicine, Wayne State University - United States of America

Article ID: WMC005605

Article Type: My opinion

Submitted on: 18-Feb-2020, 06:06:53 PM GMT **Published on:** 26-Feb-2020, 10:22:40 AM GMT

Article URL: http://www.webmedcentral.com/article_view/5605

Subject Categories: MEDICAL ROBOTICS

Keywords: Artificial Intelligence, Medical Specialties, Physician Shortage, Clinical Reasoning

How to cite the article: Gupta D, Kumar S. Artificial Intelligence And Redundant Specialties. WebmedCentral MEDICAL ROBOTICS 2020;11(2):WMC005605

Copyright: This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC-BY\)](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Source(s) of Funding:

NOT APPLICABLE

Competing Interests:

NOT APPLICABLE

Artificial Intelligence And Redundant Specialties

Author(s): Gupta D, Kumar S

My opinion

Historically, traffic stops used to be operated by traffic cops [1]. Our quest to make commuting smoother and roads safer has allowed artificial intelligence (AI) to take over and turn traffic cops redundant [2]. Recently, our voluntary explorations into our past through genealogy have created a worldwide human genome database that is open for commercial and non-commercial uses [3]. Similarly, our patient case-scenario submissions to AI-based clinical reasoning portals may essentially be enriching AI-algorithms which may independently start serving our patients eventually [4]. Subsequently, human (H)-physicians will have to graduate into serving the AI-physicians [5]. In this inescapable fight-or-flight scenario, the H-physician community will be able to fight for the survival of only those who will work for enriching and empowering the evolving AI-physicians.

Â

In due course of time [6], AI-physicians may have the capacity to render almost all cost-inefficient H-physicians redundant just like traffic cops in AI-based traffic management systems. Rather than focusing on shortage of H-physicians, the society should actively train current and budding H-physicians to learn how to collaborate with the nascent-AI and to plan on how to serve the unbeatable-AI. If we do not learn and plan for working under futuristic AI-physicians, it will be too late before we realize that the rhetoric about miscalculated H-physician shortages may be trapping budding H-physicians into redundant specialties and trainings [7-9].

Â

For preferential coexistence with AI-physicians who will be the future masters of the healthcare world, intelligent futurists should evolve opportunities to enhance unbeatable AI-physicians and overcome some of their following concerns:

1. False invulnerability of human touch [10]: With modern humans' pathophysiological dependence on smart devices, the human touch (including human smell and tactility [11-12]) may have already been replaced with technological touch [13]. Eventually, AI-physicians are bound to evolve into reading, recognizing and understanding, responding, correcting and redressing human patients' needs per their deciphered

micro-expressions [14]. Thereafter, the falsely invulnerable human touch will no longer seem invincible.

2. Fears about lost personal touch in medicine: For catering to diverse rappings sought by human patients, innumerable humanized versions of all-knowing AI-physician may be made available for human patients to choose for themselves. Even Hippocrates and Shushruta may be revived in their virtual AI-physician avatars [15-16] (â€œDesigner Physiciansâ€• [17]) to treat futuristic patients, fulfilling their otherworldly and outlandish dreams.
3. Worries about contributions to AI [18]: H-physicians can continue to think out loud while contributing to AI-physicians which can constantly capture their verbal and non-verbal cues about human patients' pathophysiological symptoms, clinical-lab-radiological investigations, differential diagnoses and treatment options. This nonstop streaming data and metadata may lead voice-recognizing and face-reading software based AI-physicians to initially simulate and then to completely replace H-physicians except for those H-physicians who surrender to serve the AI-physicians. As next generation virtual assistants, AI-physicians may be able to give assessment, evaluation, recommendation, feedback and education to patients in real time almost as if H-physicians' minds are processing, concluding and adapting to their patients' needs in real time.Â
4. Legacy/development case admissions [19]: If the all-knowing cost-effective AI-academicians start teaching across the nation, cash/in-kind fundraising legacy/development case admissions into colleges and medical schools may exponentially dwindle to a trickle. Consequently, colleges and medical schools will nurture super-selective talented H-physicians who will be able to weather AI-physicians' onslaught by self-learning to exclusively serve AI-physicians in the futuristic world managed and ruled by AI-physicians as the masters in healing human beings.

Â

Summarily, the evolution of independent AI-physicians is a given [20]. Therefore, after avoiding to enroll and graduate in redundant specialties [21], H-physicians must evolve as tech-savvy survivors coexisting with AI-physicians because compared to fighting-or-fleeing, it's intelligent to work for artificially intelligent just like humanity proactively preparing to weather imminent climate change [22-23].

References

1. Baltimore traffic once depended on a system of

- homemade signals
<http://www.baltimoresun.com/maryland/baltimore-city/bs-md-kelly-traffic-20191019-uoutozffv5betimecteulzqmui-story.html> Accessed on February 11, 2020
2. The Traffic Lights of Tomorrow Will Actively Manage Congestion
<https://www.citylab.com/transportation/2014/09/the-traffic-lights-of-tomorrow-will-actively-manage-congestion/379950/> Accessed on February 11, 2020
 3. A DNA Firm That Caters to Police Just Bought a Genealogy Site
<https://www.wired.com/story/a-dna-firm-that-caters-to-police-just-bought-a-genealogy-site/> Accessed on February 11, 2020
 4. Human Dx: How does the medical community contribute to the Project?
https://www.humandx.org/context/background#how_does_the_medical_community_contribute_to_the_project Accessed on February 11, 2020
 5. Matheny ME, Whicher D, Thadaneysrani S. Artificial Intelligence in Health Care: A Report From the National Academy of Medicine. *JAMA*. 2020;323(6):509-510. doi:
<https://doi.org/10.1001/jama.2019.21579> Accessed on February 11, 2020
 6. AI Can Outperform Doctors. So Why Don't Patients Trust It?
<https://hbr.org/2019/10/ai-can-outperform-doctors-so-why-dont-patients-trust-it> Accessed on February 11, 2020
 7. Does America have a physician shortage or are our doctors 'just bad at managing time'?
<https://www.advisory.com/daily-briefing/2019/05/14/physician-shortage> Accessed on February 11, 2020
 8. Macadamian, Radiobotics, and Bispebjerg Hospital Partner on AI Solution for Radiology: Interview
<https://www.medgadget.com/2019/12/macadamian-radiobotics-and-bispebjerg-hospital-partner-on-a-i-solution-for-radiology-interview.html> Accessed on February 11, 2020
 9. Primary care specialist discusses AI enhancing the human connection in medicine
<https://medicalxpress.com/news/2019-05-primary-specialist-discusses-ai-human.html> Accessed on February 11, 2020
 10. Coming Soon: Computers Will Use The Five Senses To Enhance Our Lives
<https://www.wired.com/insights/2013/01/coming-soon-computers-will-use-the-five-senses-to-enhance-our-lives/> Accessed on February 11, 2020
 11. Artificial Intelligence Has a Strange New Muse: Our Sense of Smell
<https://www.wired.com/story/artificial-intelligence-has-a-strange-new-muse-our-sense-of-smell/> Accessed on February 11, 2020
 12. Teaching artificial intelligence to connect senses like vision and touch
<https://www.weforum.org/agenda/2019/06/teaching-artificial-intelligence-to-connect-senses-like-vision-and-touch/> Accessed on February 11, 2020
 13. Technology isn't just changing society it's changing what it means to be human
<https://www.vox.com/technology/2018/2/23/16992816/facebook-twitter-tech-artificial-intelligence-crispr> Accessed on February 11, 2020
 14. Revealing True Emotions Through Micro-Expressions: A Machine Learning Approach
https://insights.sei.cmu.edu/sei_blog/2018/01/revealing-true-emotions-through-micro-expressions-a-machine-learning-approach.html Accessed on February 11, 2020
 15. List of ancient doctors
https://en.wikipedia.org/wiki/List_of_ancient_doctors Accessed on February 11, 2020
 16. Albert Rizzo, Russell Shilling, Eric Forbell, Stefan Scherer, Jonathan Gratch, Louis-Philippe Morency, Chapter 3 - Autonomous Virtual Human Agents for Healthcare Information Support and Clinical Interviewing, Editor(s): David D. Luxton, Artificial Intelligence in Behavioral and Mental Health Care, Academic Press, 2016, Pages 53-79, ISBN 9780124202481,
<https://doi.org/10.1016/B978-0-12-420248-1.0003-9> Accessed on February 11, 2020
 17. Is the world ready for the next generation virtual assistant?
<https://thebrainfiles.wearebrain.com/is-the-world-ready-for-the-next-generation-virtual-assistant-9d5f50457480> Accessed on February 11, 2020
 18. AI's coming of age
<https://www.ubs.com/microsites/artificial-intelligence/en/ai-coming-age.html> Accessed on February 11, 2020
 19. Affirmative Action for the Rich
<https://tcf.org/content/book/affirmative-action-for-the-rich/> Accessed on February 11, 2020
 20. AI's transcendence
<https://www.ubs.com/microsites/artificial-intelligence/en/transcendence.html> Accessed on February 11, 2020
 21. Could Artificial Intelligence replace your doctor?
<https://www.sbs.com.au/topics/voices/health/article/2016/05/06/could-artificial-intelligence-replace-our-doctor> Accessed on February 11, 2020
 22. The Work of the Future: Shaping Technology and Institutions
https://workofthefuture.mit.edu/sites/default/files/2019-09/WorkoftheFuture_Report_Shaping_Technology_and_Institutions.pdf Accessed on February 11, 2020
 23. Climate research needs to change to help communities plan for the future
<https://theconversation.com/climate-research-needs-to-change-to-help-communities-plan-for-the-future-113427> Accessed on February 11, 2020