**Dawson College**

**Integrative Seminar 300-308-DW**

**Research Topic Selection: Artificial Intelligence**

The list below includes good potential topics and resources for your Comprehensive Assessment paper. You do not need to choose from this list, but if you do not, it is a good idea to speak to me to confirm that your topic will work.

Remember that your topic must be related to Artificial Intelligence and that you will have to examine it from the perspectives of three social science disciplines. The list is divided in themes and fields. One way to do it is to select one theme and one field, for instance: The Ethics of AI in Law Enforcement.

Field: HEALTHCARE

Moodle "pitch" Healthcare: You have a Fitbit or an Apple Watch? Then you already benefit from the advances of AI in healthcare. Other promises include more efficient triage to avoid biases, the early detection of diseases, robots that could perform complex surgeries, robots that could accompany the elderly in elderly care houses, etc. Most biomedical companies are already heavily reliant of AI, which is itself dependent on patient health information. This poses privacy concerns, especially when governments are considering sharing Canadian health information with AI companies (regulation). In terms of Bias, data overly trained on one set of patients (usually Caucasian) could lead to costly medical mistake with members of other groups. Who would be responsible for such a mistake (ethics): the doctor, the AI-provider, the government?

RESOURCES

* Amann, J., Blasimme, A., Vayena, E., Frey, D., & Madai, V. I. (2020). “Explainability for Artificial Intelligence in Healthcare: A Multidisciplinary Perspective”.
* Kaul, Vivek, et al. “The History of Artificial Intelligence in Medicine.” Gastrointestinal Endoscopy, vol. 92, no. 4, 2020, pp. 807–812, doi:10.1016/j.gie.2020.06.040.
* Montreal AI Ethics institute, The State of AI Ethics Report (June 2020). <https://montrealethics.ai/the-state-of-ai-ethics-report-june-2020/>
* Fallon, Catherine. CPP4 – International Conference on Public Policy Montreal 26-28/6/2019 - T05P09 : Public Policy for Emerging and Disruptive Technologies: Governing Big Data, Artificial Intelligence, Robotics, and More Co-production of technology and socio-political orders Prenatal testing in Belgium and Argentina.
* Rigby, Micheal. 2019. AMA J Ethics. 2019;21(2):E121-124. doi: 10.1001/amajethics.2019.121.
* Micheloni, C., et al. “How a Visual Surveillance System Hypothesizes How You Behave.”Behavior Research Methods, vol. 38, no. 3, Aug. 2006, pp. 447–55.
* Reddy, Sandeep, et al. “A Governance Model for the Application of AI in Health Care.” Journal of the American Medical Informatics Association : JAMIA, vol. 27, no. 3, Mar. 2020, pp. 491–97.
* Smidt, Hermanus J., and Osden Jokonya. “The Challenge of Privacy and Security When Using Technology to Track People in Times of COVID-19 Pandemic.”
* Kennedy, Krista, et al. 2021 “Balancing the Halo: Data Surveillance Disclosure and Algorithmic Opacity in Smart Hearing Aids.” Rhetoric of Health & Medicine.
* Asan, Onur, et al. “Artificial Intelligence and Human Trust in Healthcare: Focus on Clinicians.” Journal of Medical Internet Research, vol. 22, no. 6, June 2020, p. e15154. EBSCOhost, ISSN: 1438-8871.
* Brenna, Connor T. A. “Medical Machines: The Expanding Role of Ethics in Technology-Driven Healthcare.” Canadian Journal of Bioethics / Revue Canadienne de Bioéthique, vol. 4, no. 1, Jan. 2021, pp. 107–11. EBSCOhost, ISSN: 2561-4665.
* Goodman, Kenneth, et al. “Balancing Risks and Benefits of Artificial Intelligence in the Health Sector.” Bulletin of the World Health Organization, vol. 98, no. 4, Apr. 2020, p. 230–230.
* McCradden, Melissa D., et al. “Patient Safety and Quality Improvement: Ethical Principles for a Regulatory Approach to Bias in Healthcare Machine Learning.” Journal of the American Medical Informatics Association : JAMIA, vol. 27, no. 12, Dec. 2020, pp. 2024–27.