

## 2/14/2018 – Testimony on the proposed H.378: Artificial Intelligence Commission 1

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I would like to thank Representative Brian Cina for inviting me here today to share my thoughts regarding H.378 concerning the creation of an Artificial Intelligence Commission within the Legislature.

I believe one of the reasons I was invited to speak on this matter is because for the past 12 years, I have been directing the Lifonaut Project, a multi-decade research project exploring the possibility of using artificial intelligence, to upload information from a human mind to a machine that one day can be used to create an intelligent avatar or robot that results in a form of cyber-consciousness. The sponsor of this project is the Terasem Movement Foundation a private nonprofit educational and scientific research organization located in Lincoln, Vermont.

As part of this project in 2010 we developed with Hanson Robotics, Bina48 a life size head and shoulders animatronic robot that uses artificial intelligence to reanimate the essential characteristics of a mind based on the memories, attitudes, values, beliefs, and mannerisms of a specific human mind. This experiment is pursuing the question of whether it is possible to create a good enough approximation of the original information in a new form e.g. robot or avatar. Bina48 and I have traveled the world over the past 7 years participating in numerous public discussions, scientific conferences, and business meetings about A.I. and its implications for human beings and society in general. Speaking with these technologists, futurists, A.I. developers, business leaders, government officials, educators, and members of the general public, I have listened to their concerns, questions and aspirations for this emerging field of machine based intelligence. In a 2014 Pew Research Center survey, the vast majority of the 1,896 experts anticipated that robotics and artificial intelligence will “permeate wide segments of daily life by 2025.”

Both on these conversations I observe the following;

1. A.I. is rapidly developing in both its ability to simulate aspects of general human intelligence and its breadth of integration into everyday life driven in part by scientific innovation, popular curiosity, a desire for profit, efficiency, innovation, and an optimism towards a future made better through technology.
2. A.I. is a powerful technology that is rapidly being integrated into many aspects of daily life and across a wide variety of sectors such as finance, education, medicine, and the arts in both public and private domains. Examples include, identifying new approaches to treating diseases, self-driving cars, GPS

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navigation, stock trading algorithms, home automation, language translation, journalism content creation, voice recognition devices to name a few.

3. A.I. technologies will present us with both practical and existential, short term and long-term challenges that need public input, transparency, and democratic decision making. In the near term, practical issues of safety (think Self-Driving cars), desirability, legal rights and civil liberties are before us now and we need democratically based forum for informed decision making based on citizen input. More long term, as A.I. and its many uses develop we will be asked to answer questions regarding the kind of human values we want to imbue this technology with such as our ethics, compassion and wisdom. For example we are already being asked to define our ethics when it comes to autonomous vehicles operating in our communities e.g. the “trolley car ethical dilemma”. How do we create an A.I. that values and protects life as we currently do. How will we make sure that we don’t build racism, sexism and other prejudice into this powerful technology perpetuating current bias and status quo. Ultimately, we may be even be challenged to answer the question: What does it mean to be human? As machine intelligence becomes more powerful in replicating what has to date been considered the exclusive domain of human beings, e.g. creativity, emotions, and the development of self-aware A.I. that asks for “civil rights”.
4. A broad understanding and informed public discourse about the potential benefits, challenges, ethical questions and consequence represented by A.I. driven technologies is lagging behind rapid advances and adoption of A.I. based products and services. What is needed right now is citizen input, government guidance and policy development. Recent statements by both business leaders and scientists about their concerns related to A.I., I believe reflect a desire for an increased democratic and transparent public dialog about the kind of future world we want to create / and or avoid as we adopt A.I. powered products and technologies.

Based on these observations, I believe creating a Vermont Commission on Artificial Intelligence is needed and should be considered a high priority. The Commission on Artificial Intelligence could investigate the shape and speed of these changes in Vermont and in society

An appointed A.I. commission could be charged with advising and advocating for a thoughtful consideration for how A.I. based products, research, services, and other yet to be developed ideas for implementing A.I. should be managed to ensure a balance between the costs/consequences and price of this new emerging technology and how to preserve and advance human values and society the reflects the kind of world we want to live in.

Here are few responsibilities that might be included in an A.I. Commission’s charge:

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1. Identify and inform elected leaders and their constituents about current and future trends in A.I. Openly discuss the consequences of its integration into daily life including short term and long term benefits and consequences. As AI becomes a greater part of our everyday lives, so does the discussion about managing risks and rewards. As more applications of AI are developed, Vermonters and their elected representatives should be leading the debate on how to build trust, prevent drastic failures, and integrate ethical considerations into the design of AI technologies.
2. Represent the diverse perspectives and values held by Vermonters by creating a membership in Commission composed of Vermonters who represent a broad cross section our society including; Elected Officials, Scientists, Business Leaders, Technologists, Ethicists, Educators, Artists, and other citizens at large.
3. Provide a channel for citizen education, dialog, discussion, debate and information sharing about A.I. and its benefits and challenges to ensure a balanced and robust decision making process related to the adoption and use of A.I. in all aspects of daily life.
4. Develop, research and make policy recommendations to guide and advise both public leaders, institutions and private business in the development in the use of A.I. in Vermont municipalities, consumer products, academic research, and government services.
5. Contribute to a Strategic Plan for A.I. in VT State Government, Society, Education ect.by conducting an open comprehensive study process to gather information and consider ways to promote economy, efficiency and improved service in state government. The Commission's open process would create an opportunity for the public to participate in the policy discourse\*.

As an example California's Commission on Artificial Intelligence describes its charge as:

*“Through its public process, the Commission intends to study the key challenges of artificial intelligence in California, its economic implications and how it can be used to solve societal ills. The Commission will review issues such as justice, equity, safety and privacy. The project will consider recent studies on workforce impacts, which could include both job creation and job displacement. Possible mitigations and worker protections will be discussed as will examples of efforts to plan and prepare for innovations and labor transformations. In addition, the Commission will review how artificial intelligence can be used as a key tool to address social problems such as HIV prevention.” Throughout its study, the Commission will consider the potential policy role of California state government in areas such as regulation, workforce development and retraining.*



\*Sample Study Process Adapted from The Little Hoover Report, California)

### 1. Select Study Topic

The Commissioners select study topics that come to their attention from citizens, legislators, their own experiences and other sources.

Over the course of a year, the Commission selects three to five issues to explore in depth, and also revisits issues raised in previous studies.



### 2. Research

Under the direction of a subcommittee of Commissioners, staff conducts research by collecting data, reviewing research others have performed and consulting with experts and those most closely affected by the targeted topic.

The Commission seeks out successful leaders and model state, national and global programs for ideas and best practices.



### 3. Convene

Based on preliminary staff research, the Commission subcommittee identifies key issues and oversees the creation of public hearings and advisory committee meetings to explore all sides of the issues in an open setting.

This public setting creates a forum for dialogue, collaboration and exploration of ideas from various perspectives. The Commission receives input from public officials, experts, advocates and other stakeholders.

The Commission also makes site visits to talk directly with people involved in the study area.

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### 4. Analyze and Deliberate

Once the Commission has fully explored the study field and engaged in a public process, the subcommittee and staff draft potential findings and recommendations that focus on the key issues.

The draft report is then submitted to the full Commission for its consideration.

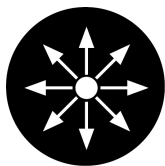


### 5. Adopt Report

The Commission, as a whole, may make changes before adopting and releasing the final report.

Once the Commission has collectively reached an agreement on the report's findings and recommendations, the Commissioners vote to adopt the report.

All Commission reports are sent to the Governor and Legislature for their consideration.



### 6. Implement

To encourage the implementation of its reports, the Commission engages in the following activities:

- Meetings and Presentations: Commission staff routinely meets with legislative and executive branch officials to encourage or assist them with implementation efforts. Commissioners and senior staff do media interviews and make public presentations, appearing before associations, local government agencies and legislative committees.
- Legislation: The Commission supports a number of bills that are based on or influenced by the Commission's work. The Commission's chair and senior staff testify at legislative hearings and work with legislative staff and interest groups to advance bills. The Commission does not oppose bills that are contrary to its recommendations.
- Follow-up letters and hearings: As deemed necessary, Commissioners revisit study topics to monitor progress made and consider whether additional review is needed.

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