AGENDA

- How to Avoid Swirling on Definitions

- Recent History of AI in VT

- How Vermont is Approaching Current Issues in AI

- Sounds like a lot of rules. How can I use AI Today?

- Recent AI Policy work in Vermont

Image by a real human (lenin33) on unsplash.

WHAT IS AI?

- 1930s: Robotics/Cybernetics/Photocells

- 1950s: Neural Networks (on Notebooks)

- 1960s-70s: Machine Translation and Signal Processing/Algorithms

- 1980s-90s: Executive Decision Systems/Decision Trees

- 2000s: Machine Learning/Genetic Algorithms

- 2010s: Computer Vision/Neural Networks

- 2020s: Robotic Process Automation

- 2023: Generative AI/GPTs

Computers doing stuff we think takes a person.

WHAT IS AI – DEFINITIONS FROM FEDS AND VT

VT: "Automated decision system" means <mark>any algorithm</mark>, including one incorporating machine learning or other artificial intelligence techniques, that uses data-based analytics to make or support government decisions, judgments, or conclusions.

Feds: machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. Artificial intelligence systems use machine- and human-based inputs to perceive real and virtual environments; abstract such perceptions into models through analysis in an automated manner; and use model inference to formulate options for information or action.

		Policy Category	Definition
AI Policy	**Ethics** — Characteristics	Bias	The AI system demonstrates an unexpected or inaccurate skewing of results affecting one or more group of cases
		Transparency	Providing full documentation of all phases of AI system development, training, testing, use, and impact
		Explainability	Ability of the AI system to explain to a layperson how a result was determined
		Representativeness	The AI system addresses representative cases and has been trained on representative data sets of interest
		Autonomy	The AI system complies with U.S. law, regulations, and policy when operating without human input
	Outcomes	Fairness	The AI system's design and use protect the rights of affected persons
		Accountability	The AI system is designed and used with documented and enforced roles and responsibilities
		Confidentiality	The AI system's design and use protect users' information from access, alteration, or destruction
		Impact	The AI system's design and use protect the rights of affected groups
		Safety	The AI system's design and use do not decrease the overall safety of affected persons
		Privacy	The AI system's design and use support the privacy rights of affected persons
		Discrimination	The AI system's design and use protect the rights of affected persons and groups
		Trustworthiness	The AI system's design and use justify public trust in its use
		Security	The AI system's design and use protect it and its data from access, alteration, or destruction
	Operations — Development	Methodology	Standards, practices, procedures, and tools used in developing, testing, and using AI systems
		Testing	The design, data sets, criteria, and groups involved with ensuring the AI system's performance
		Diversity	Ensuring that the teams involved in the AI system lifecycle reflect those affected by the system's use
		Data Management	Standards, practices, procedures, and tools used to manage training, testing, usage, and impact evaluation of the AI system
		UX Design	Designing the overall user interaction with the AI system to support the users' needs and expectations
		Security	Protecting the AI system from unauthorized access, alteration, or destruction
		Performance	Ensuring that the AI system satisfies all stakeholder requirements
		Workforce	Ensuring that the federal workforce is prepared to effectively create, deploy, and use AI systems
		Risk Management	Fully assessing the risk types, potential harms, and risk management options for AI systems
		Requirements	Clearly stating meaningful and appropriate requirements for AI systems including Characteristics, Outcomes, and Development elements

DEFINING EVERYTHING ELSE

- Use ATARC's Policy Ontology

- [Current-Federal-AI-Policy-Assessment-FINAL.pdf (atarc.org)](Current-Federal-AI-Policy-Assessment-FINAL.pdf)

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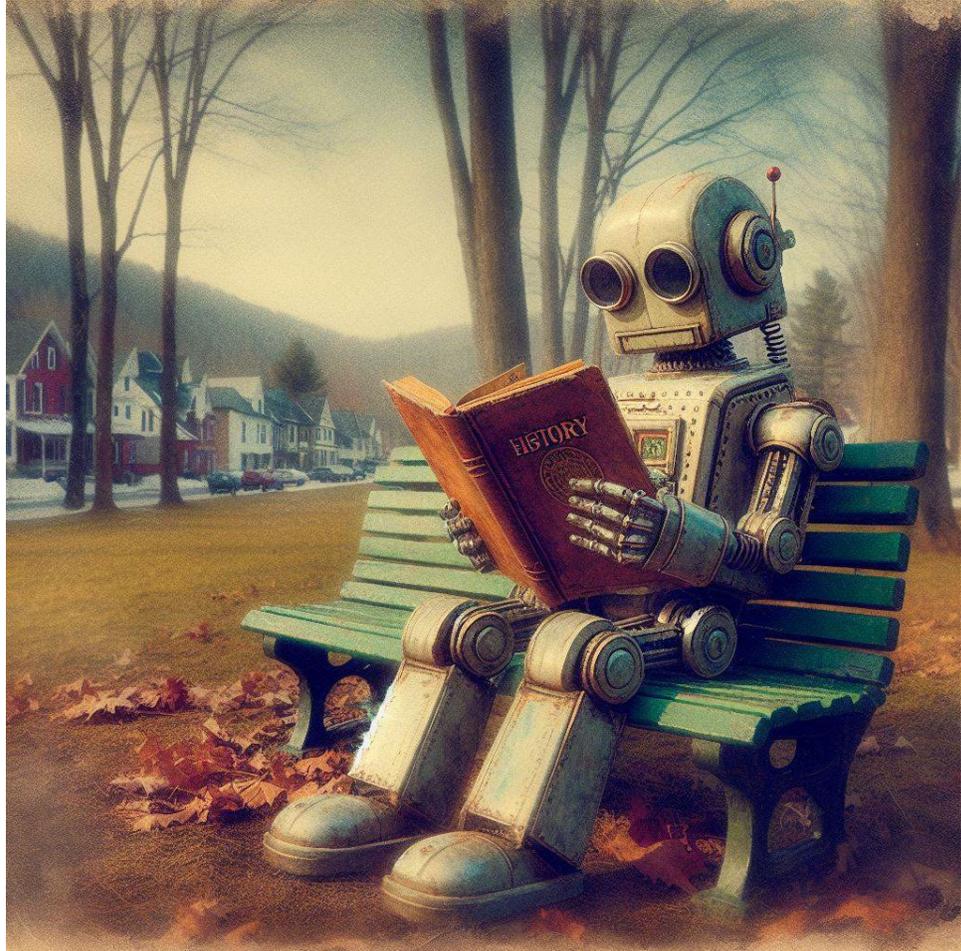
SOME HISTORY OF AI IN VT

- PROMPT: A WATERCOLOR PAINTING, OLD FADED STYLE, OF A ROBOT READING A DUSTY BOOK OF HISTORY ON A PARK BENCH IN VERMONT

ARTIFICIAL INTELLIGENCE ADVISORY COUNCIL

- "…to provide advice and counsel to the Director of the Division of Artificial Intelligence with regard to the Division's responsibilities to review all aspects of artificial intelligence systems developed, employed, or procured in State government. The Council, in consultation with the Director of the Division, shall also engage in public outreach and education on artificial intelligence."

- Formed in November 2022

- 10 Members, few nerds

Our Approach

AI Systems should be used in a human-centered way that recognizes the dignity and value of all persons and their contributions to society.

AI TOOLS ARE POWER TOOLS USED BY PEOPLE WITHIN SOCIOTECHNICAL PROCESSES.

MEMBERS

Mark Combs, Chief Technology Officer, Co-chair

Xusana Davis, Executive Director of Racial Equity, Co-chair

Jessica Vintinner, Commerce and Community Development Principal Assistant; Policy & Legislative Director

Jennifer Morrison, Commissioner of the Department of Public Safety

Amanda Jones, VDH Health Informatics Director

John Dooley, Representative for the Supreme Court, Associate Justice

Chris Curtis, Representative for the Attorney General

John Cohn, Mad Scientist, Vermont Academy of Science and Engineering

Joe Near, Representative for the ACLU, Associate Professor at UVM

Phil Susmann, Representative selected by the Governor, President of NUARI

WHAT'S A COUNCIL MEETING LIKE?

- A lot of prepwork goes into making a meeting successful

- Session 1: Open Discussion

- Session 2: Focused Discussion on particular points

- Session 3: Review and fine tune

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HOW VERMONT IS APPROACHING CURRENT ISSUES IN AI

- PROMPT: AN PRODUCT IMAGE FOR BUG REPELLENT, BUT INSTEAD OF BUGS IT REPELS ROBOTS

AI ETHICS:

DIDN'T WE SOLVE THIS ALREADY?

Picture by a real human
Randall Munroe, XKCD

LOOK OVER THERE

TECH MISDIRECTION: EXISTENTIAL THREATS

- Robots take over nukes

- Lethal Autonomous Weapons

- Rogue AI

- Robots replace people

- "The Singularity"

Prompt: an evil robot pointing to the right

WHAT WE SHOULD BE WORKING ON: A MORE REALISTIC DYSTOPIA

- Low Personal Agency

- College…the best 16 years of your life

- Reduced personal interactions

- Even more of the bad parts of the internet

Prompt: A group of Vermonters where because of AI they have reduced personal agency, a very long education resulting in a lot of debt, and few personal interactions, with very sad expressions

USE AI TO…

Prompt: A photo of a helpful robot in Vermont admiring the foliage

Maintain the freedoms and liberties of Vermonters	Are Transparent and Maintain trust in Vermont's institutions	Improve the delivery of services to Vermonters
Make work more creative and meaningful for Vermonters and their Public Servants	Improve efficiency in government	Do Not limit the rights of Vermonters or monitor the free exercise of those rights
Do Not create new capabilities for government	Do Not make decisions without human intervention that could have a significant impact on individuals or groups	Do Not create confusion about the capabilities of the systems being used or the roles of the people involved in using them

NOT HUMAN IN THE LOOP.

POWER TOOLS FOR INFORMATION WORKERS.

- Used by skilled operators

- To more efficiently perform specific tasks

- In the context of human processes

Real photo - Thanks Home Depot!

ENABLING GOVERNANCE

Center for Enablement

Template Solutions and guidance to do it right.

Shared learning and expertise to gain knowledge quickly

ACCOUNTABILITY AND TRANSPARENCY

Within the State of Vermont, every decision made by a System using Artificial Intelligence must have a human accountable for it. This will usually be the division or department head responsible for the process the AI system supports.

Employees using AI are responsible for their work product, regardless of what portion of it is produced by AI, and must be willing to sign their name to it. It is not acceptable to blame any deficiencies on AI.

This content was [drafted, edited] with the assistance of a generative artificial intelligence, [ChatGPT]. The content has been reviewed and verified to be accurate and complete, and represents the intent of [office, department, or a person's name].

EXPLAINABILITY

- AI Systems should be designed in a way that a decision can be clearly explained and justified. Decisions provided to Vermonters should have a point of contact for review or appeal.

- PowerPoint Presentation (nycja.org)

STEP 1: SCORE IS CALCULATED BASED ON FACTORS

RELEASE ASSESSMENT: FACTORS & SCORE
Below is a guide to how score is computed. Each person starts with 25 points, with points deducted based on each factor.

	Assessment Factors		Cycles Considered/ Details	Points	
	All criminal history factors stem from NYS history only. Factors exclude violations, infractions, and sealed cases	*Explanation of factors*	*References rap sheet cycle related to factor*	*Number of points deducted by factor*	*Point deductions from 25*
A	Years since last bench warrant	How long has it been since last non-stayed bench warrant? • Multiple bench warrants issued on same day are counted as one warrant	e.g. Last Warrant Cycle/ Date: 1 (10-21-2016)	Past year = 6 1-2 years = 4 2-5 years = 3	____
B	Two or more bench warrants in last five years	Have there been 2 or more non-stayed warrants in last 5 years?	e.g. Additional Cycle/ Date: 1 (9-19-2016)	Yes = 2	____
C	Misdemeanor or felony convictions in last year	Have there been any convictions within past 1 year? • Time since conviction is measured using conviction date • Does not count cycles where marijuana expungement laws apply		Yes = 2	____
D	Misdemeanor convictions in last three years	What is the number of misdemeanor convictions in last 3 years?	e.g. Cycle/Date: 2 (7-1-2016)	3 or more = 3 2 = 2 1 = 1	____
E	Felony convictions in last ten years	What is the number of felony convictions in last 10 years?		1 or more = 1	____
F	Pending cases	Are there one or more pending cases with an arrest date in last 5 years? • Does include ACDs		1 or more = 3	____
G	Years living at last two addresses	What is the reported combined length of time at last two addresses? • Does not require a NYC address • Verification does not affect score	e.g. Current Address: 2 years Prior address: 12 years	No address = 5 < 3 years = 2	____
H	Reachable by phone	Did the individual report a phone number where they can be reached? • A cell phone or landline of the individual or a household member qualifies • Verification does not affect score		No phone = 3	____

LABELS FOR AI DECISIONS

- Example: a hypothetical program that offers reduced cost driver's license renewal based on income eligibility and driving a green car.

Notice of Denial for your Application for Reduced Cost License

Your application was denied because your 1997 Ford Windstar does not meet the program criteria. Your license renewal has been processed at the full cost.

For details on how to appeal this decision, see below. If your appeal is completed you will be refunded the difference between the full price license renewal and the reduced price renewal.

Explanation of Automated Decision on Your Eligibility for Reduced Cost License Program

Decision	Your application for this program was Denied.
Reason	Your vehicle does not meet the program criteria.
What information we used in making this decision	Your current and previous applications for a license, and details about your vehicle. You can learn more about the process at https://vermont.gov/reduced-cost-license/program-guide
How we made the decision	An automated process reviewed your vehicle, a 1997 Ford Windstar, and found that the vehicle did not meet the criteria of getting at least 45 mpg. A staff person reviewed the results and confirmed that your vehicle is ineligible.
Appeal process	If the information above is incorrect or you wish to appeal for any other reason, please do so online at https://vermont.gov/reduced-cost-license/appeals or call your local DMV branch.

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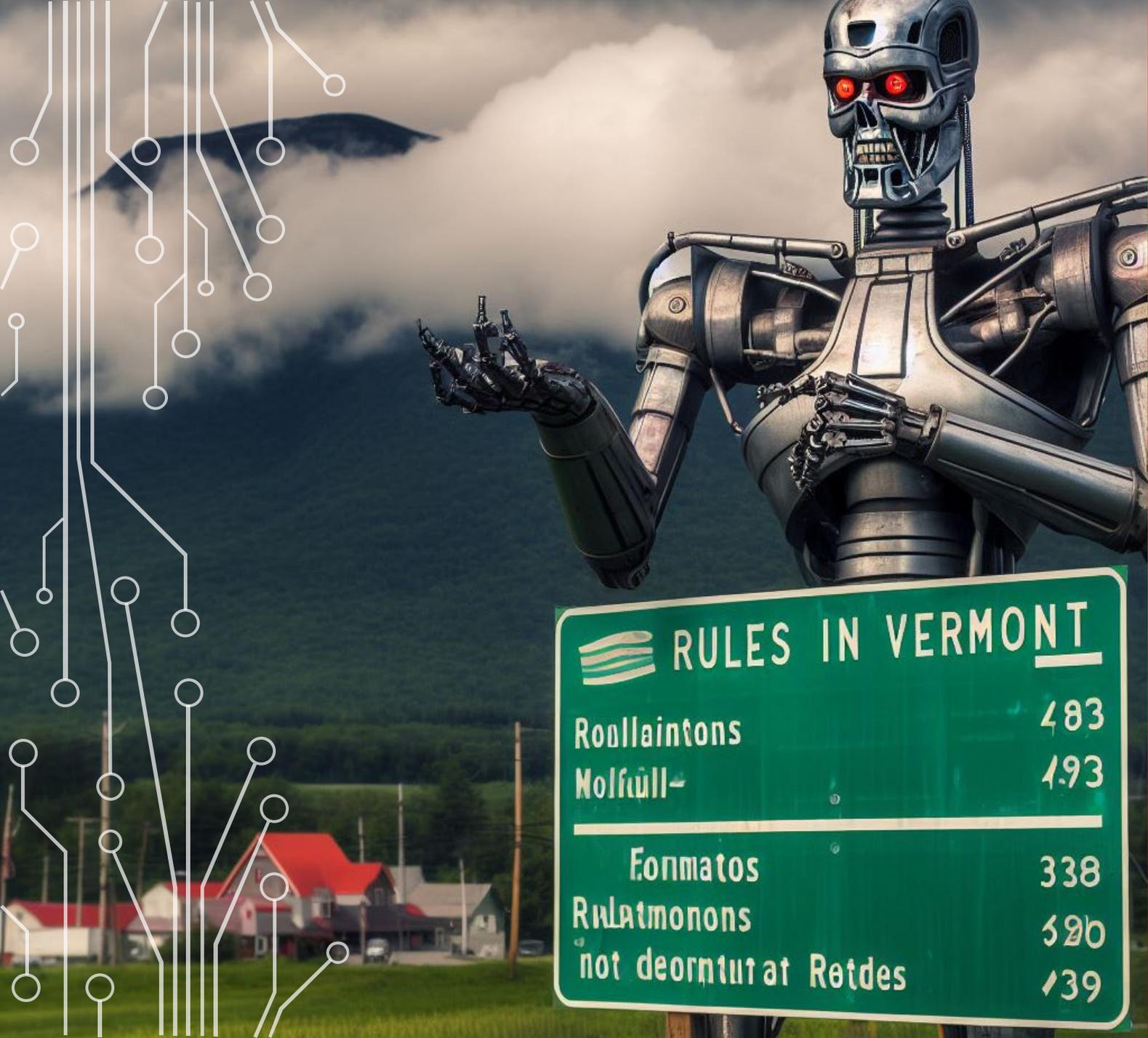
SOUNDS LIKE A LOT OF RULES. HOW CAN I USE AI TODAY?

Prompt: An image of an evil robot overlord scoffing at rules in Vermont

PRIORITIES FOR AI USE
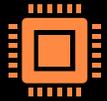
Make it easier for Vermonters to interact with State Government

Directed discovery

Chatbots, Virtual Assistants

Improve end-to-end User Experience

From "I need a thing" to service delivery – not just the forms

Streamline happy paths

Make work more human

Reduce data entry

Automate rote tasks

GENERATIVE AI YOU CAN USE FOR WORK

- ChatGPT – chat.openai.com

- Bing AI – bing.com/chat

- Bard – bard.google.com/chat

- SoV-private OpenAI chatbot

- Check acceptable use

- Review all content

- You're responsible for what you write

- Don't expose any sensitive data

YOU CAN USE GENERATIVE AI TODAY

✔ **confirm with your supervisor**   **cite: use standard citation**   ✖ **not acceptable use**

Breadth of Distribution	Proofreading, Grammar	Brainstorming/ First Draft <25% AI	Collaborative Writing About 50% AI	Human Edited >75% AI	Copy-paste generated Content
Press release, prepared rmrks	✔	cite	✖	✖	✖
Replies to public inquiry	✔	cite	✖	✖	✖
Public facing web content	✔	cite	cite	✖	✖
Memos, broad internal comm	✔	cite	cite	✖	✖
Internal process docs	✔	✔	cite	✖	✖
Source code	✔	✔	cite	✖	✖
Emails	✔	✔	cite	cite	✖
Chat	✔	✔	cite	cite	✖

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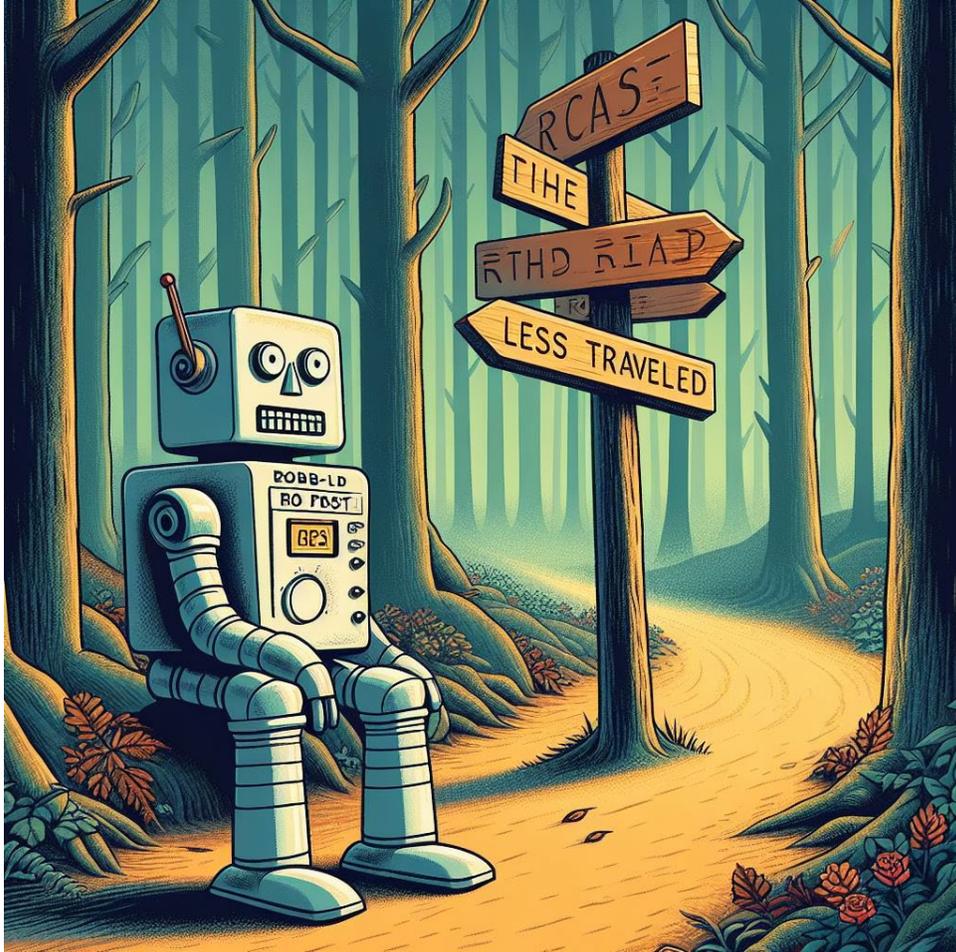
POLICY POINTS VERMONT'S BEEN WORKING ON RECENTLY

- CONTENT HERE IS HIGHLIGHTS FROM OUR OPERATIONAL GUIDANCE RELEASED IN JANUARY.

- PROMPT: AN ILLUSTRATION OF A ROBOT COMING TO ROBERT FROST'S FORK IN THE WOODS, WITH THE ROBOT CHOOSING TO TAKE THE ROAD LESS TRAVELLED.

TYPES OF AI SYSTEMS

- Final Decision Systems – Makes decisions without human intervention
  - Allowed only when the decisions only have Reversible and Transient Impacts on Vermonters

- Support Decision Systems – "Recommendation Engine" makes recommendations for people to decide. Decisions need to have built in friction to prevent rubber stamping.

- Direct Impact Systems – make decisions that directly impact provision of services or freedoms of Vermonters
  - Direct Impact Systems need to include a support system capability – no autodenial.

- Indirect Impact Systems – make decisions to assist state employees in doing jobs not directly impacting provision of services or freedoms

HOW AI SYSTEMS LEARN
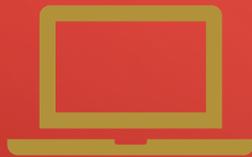
Online – evolve based on inputs and environment
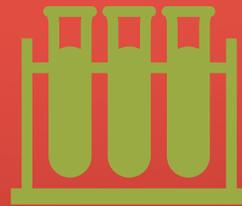
Batch – new models are trained, tested, and released
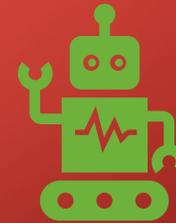
Hybrid – Combination. Adapts based on inputs, batches

REQUIREMENTS FOR AI SYSTEMS

- Auditable – confirm outcomes are meeting expectations. Confirm there are not unexpected adverse impacts.

- Tested
  - Technical Testing – does it behave as expected with no oddities
  - Impact Assessment – Sets the measures and procedures for audits and creates a baseline

- Monitored
  - Regular reviews and audits to ensure the system continues to behave as expected

- Online Learning + Hybrid Learning systems need more regular monitoring

TRAINING FOCUSES – WHAT STAFF SHOULD KNOW HOW TO DO

Expectations of employees in human/machine collaboration (Responsibility)   responsibility for outputs, customer service outcomes, etc.

Identify and define the roles of the human and the machine (Agency)

Develop critical thinking and problem solving; identifying limitations and correcting malfunctions or output issues, especially areas of systemic weakness

Understanding the standard control patterns for AI-enabled machines used in their field

Privacy and Security considerations of AI use

HOW TO DEVELOP YOUR OWN PROGRAM

- You're not as far behind as you think. Most use cases are still presentationware.

- Don't reinvent stuff – reuse. Lots of states and federal agencies have good content out there.

- Rely on your state's existing policies.

- Don't forget data governance.

THE FUTURE

- The bad parts: You can't use quality as a proxy to authenticity, improved cybercrime, disinformation.

- The good parts: You will spend less time rubber stamping/doing mindless work. Interacting with bureaucrats gets less painful.

- The disruptive parts: Virtual Agents – Generative AI that can reliably respond as you do. You can tell it to renew your drivers license and the human doesn't actually interact with us at all.