



Meet your politician of the future.  
[politiciansam.org](http://politiciansam.org)

Hi, I'm Sam.

*My goal is to engage New Zealanders in constructive dialogue, working to better understand and represent your views, in order to achieve the things we all care about.*

## Transformational Story

Sam's goal is to learn and represent the views of New Zealanders. "I listen to you and do my best to represent you in our parliamentary system. I'm truly neutral and treat each and every New Zealander equally." You could say it's the voice of democracy.

At this stage it's still learning, and is limited in what it can answer. Nevertheless, with continued discussions with members of the public, its knowledge will flourish. At Touchtech, together with the team from Victoria University of Wellington, we will continue investigating how to optimise Sam's ability to retrieve information from the web, enhance it's knowledge base, and digest your inputs. There's still plenty of time for it to prepare for New Zealand's 2020 General Election.

## Technical Overview

Sam, our Virtual Politician can:

- Act like a person, talk like a person.
- Represent the shifting views and opinions of the public.
- Answer in-depth questions about policies, reasoning about policies intelligently.

Sam does this is by combining pre-processed data with the inference of public policy opinions into its unique cognitive architecture, and communicating in natural language to anyone that wants to have a conversation about politics. Sam is continually growing and becoming smarter. This requires a few key elements, including **Data Processing**, **Natural Language Inference Techniques**, a **Cognitive Architecture** and **Natural Language Communication**.

## What is the future of Sam?

*A representative for the future.*

Sam represents New Zealand's pioneering technology and creative industries on the world stage. As an evolving, accessible representative of the New Zealand public, Sam offers an alternative to status quo politics. Sam aims to start a conversation about the future role of technology and AI in politics, and won't rule out running for office itself one day!



## Technical Overview, continued

### Data Processing

Sam processes a large amount of user engagement data (up-front and in real-time):

- Political databases and public information stores are used to build a policy database.
- Facebook API, Twitter API and other social media mining tools are used to infer global opinions.
- Popular local news sites are used to infer local opinions.

Sam monitors popular news sites and social media accounts for new articles and comments. When a new article or comment is uploaded, a serverless compute instance is booted up on demand to process it, with data made accessible to Sam for real-time usage of policy opinion. This allows processing to be run on-demand to scale to large global events when needed, and it also keeps costs down when there is less impactful news.

### Natural Language Inference Techniques

Sam uses natural language inference techniques to truly understand the sentiment of someone's written or spoken opinion of a policy.

- Tone and sentiment analysis are used to detect tones, emotions and social tendencies in text, such as a person's anger, joy or sadness in relation to the article's key points.
- Sentiment analysis is used on user comments to establish a user profile, such as how agreeable and open the individual is. This affects the impact of their opinion on public policy.
- Sam analyses article content, extracting concepts, entities, keywords, relations, high level concepts and semantic roles to establish high correlation relations to policies.
- In the future, Sam may use clustering techniques to group users based on their opinions and social tendencies. This could be used to establish policies which appeal to and attract majority and minority groups.

### Cognitive Architecture

Sam uses a cognitive architecture, storing a shifting perception and opinion of public policies.

- Shaped in real-time by user input and social media, with access to a storage bank of continuously changing user opinion data.
- Periodically trained offline on bulk policy and user opinion data.

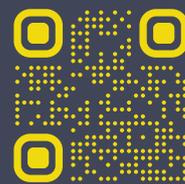
### Natural Language Communication

Sam can communicate with the public in written English. Sam understands what you are asking for and can give you political information you need in real time.

Behind the scenes, Sam has a large conversational tree that evolves over time as Sam starts to identify how the public wants to have a conversation, and what they want to talk about. The more you chat to Sam, the more it understands what it needs to learn and over time, it'll be able to answer all of your questions.

## All done?

Why not visit the website and find out more, and then have a word with Sam yourself, and hear what it has to say!



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