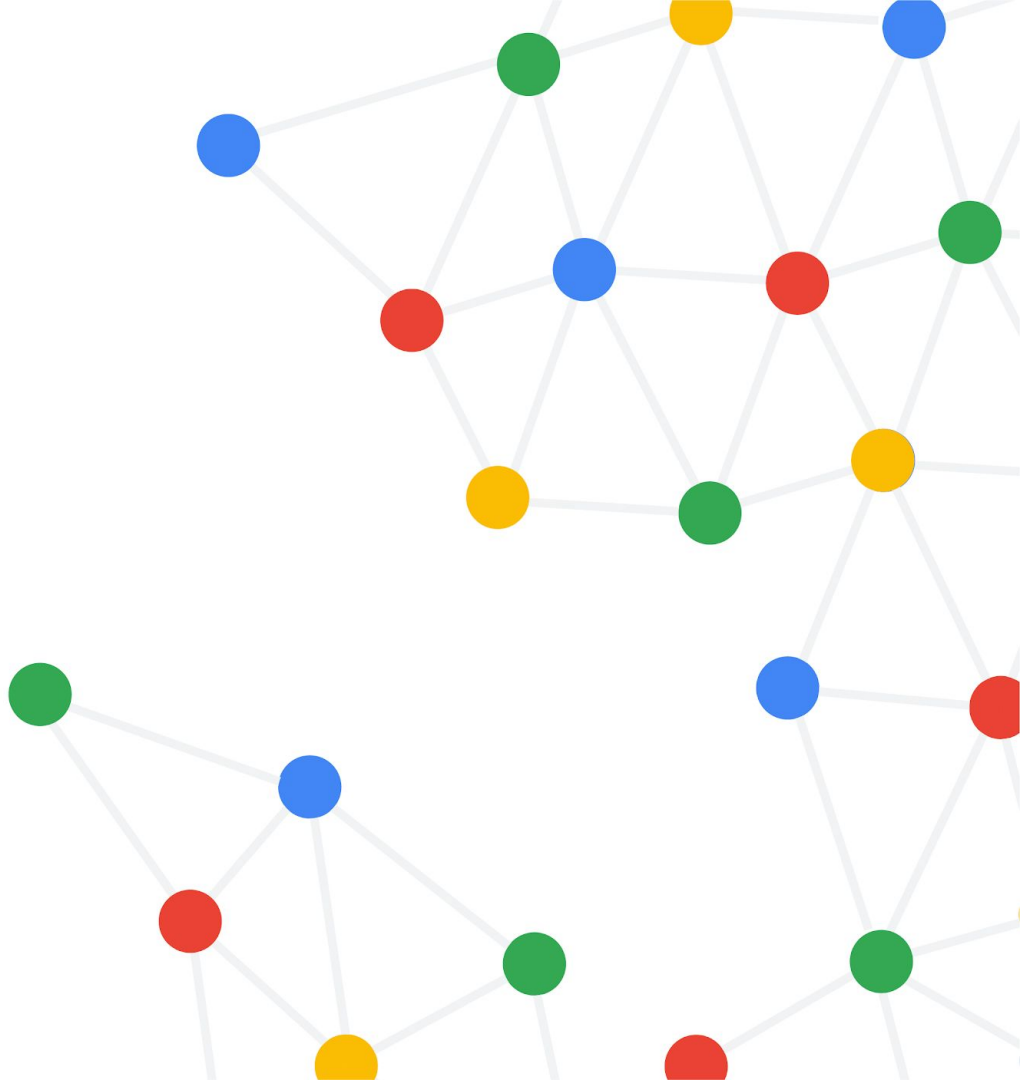


Linguistic Data for Machine Intelligence

Michael Tseng

Google Research



Overview

Language Technologies

- “Understanding” and “generation” of textual and spoken language
- Interaction with public or private **knowledge bases**
- **Dialogue** context
- **Multimodality** (e.g., language with visual context)

Eddie Aikau

About 350,000 results (0.52 seconds)

en.wikipedia.org › wiki › Eddie_Aikau

Eddie Aikau - Wikipedia

Edward Ryon Makuahana Aikau (Kahului, Hawaii, May 4, 1946 – March 17, 1978) was a Hawaiian lifeguard and surfer. As the first lifeguard at Waimea Bay on ...

Favorite waves: Waimea Bay (North Shore, Oa... Height: 5 ft 11 in (1.80 m)
Years active: 1959–1978 Born: May 4, 1946; Kahului, Territory of Hawaii, ...

Life · Memorial surfing invitational · Popular culture · References

People also ask

- How did Eddie Aikau die?
- What year did Eddie Aikau die?
- Is Eddie Aikau still alive?
- What is the story of Eddie Aikau?

Feedback

Videos

- How Eddie Aikau Became One of Surfing's Most Legendary ... (6:29) Comedy Central YouTube · Aug 22, 2019
- Who Was Eddie Aikau And What Happened To Him? Google ... (2:33) Dadakoglu YouTube · May 4, 2019
- Hawaiian : The Legend of Eddie Aikau Official Trailer - 30 for 30 (3:01) Quiksilver YouTube · Sep 11, 2013

Eddie Aikau
Lifeguard

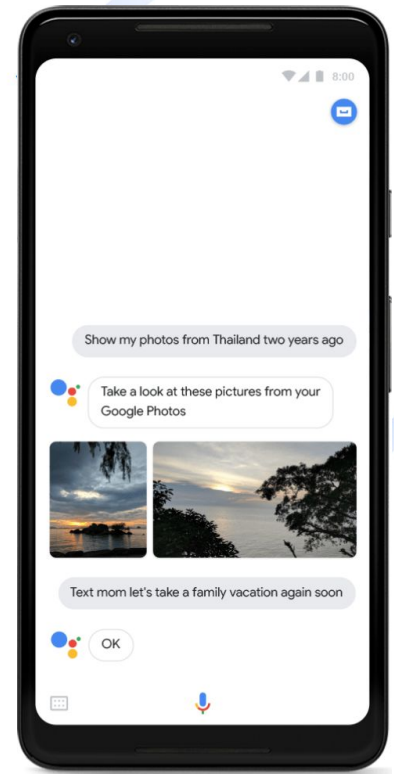
Edward Ryon Makuahana Aikau was a Hawaiian lifeguard and surfer. As the first lifeguard at Waimea Bay on the island of Oahu, he saved over 500 people and became famous for surfing the big Hawaiian surf, winning several awards including the 1977 Duke Kahanamoku Invitational Surfing Championship. [Wikipedia](#)

Born: May 4, 1946, Kahului, HI
Died: March 17, 1978, Hawaii
Spouse: Linda Crosswhite (m. 1972–1978)
Residence: Kahului, Hawaii, United States
Siblings: Clyde Aikau, Myra Aikau
Parents: Sol Aikau, Henrietta Aikau

People also search for View 10+ more

- Clyde Aikau Brother
- Duke Kahanam...
- Mark Foo
- Nainoa Thompson
- Greg Noll

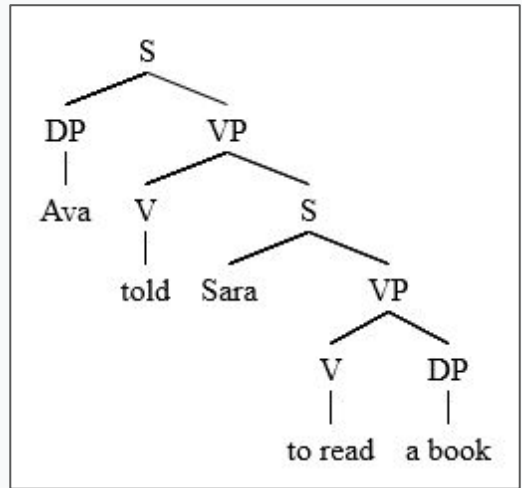
Feedback



“Traditional” Paradigm

Data Sets for NLP

- **Pipeline** metaphor (e.g., tokens → morphology → syntax → semantics)
- **Formal** model of features
- **Strict** labeling schemes with low tolerance for ambiguity



“Traditional” Paradigm

Linguistic Annotation

Trained Experts

Usually **linguists** or others well versed in the formal modeling

Technical Discussion

Annotation **guidelines**,
adjudication meetings, etc.

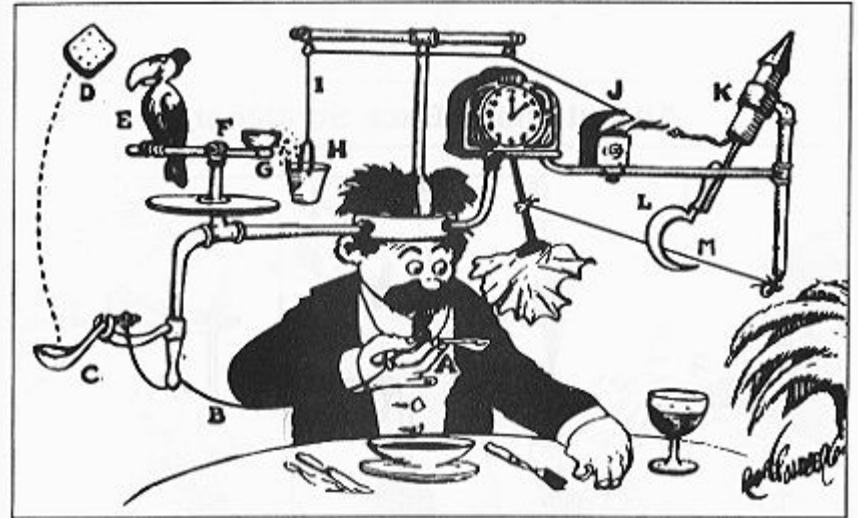
Complex Tasks & Tools

Interfaces designed for
specialists, similar to an **IDE**

Crowdsourcing User-Aware Approaches

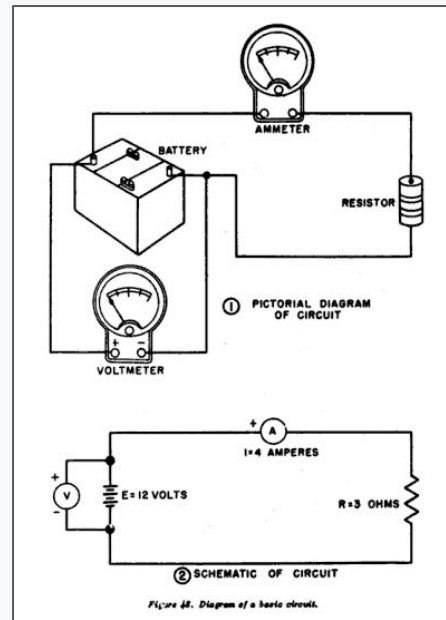
- Reframe model-driven tasks and guidelines in terms of **accessible concepts**
- **Compose task** as sequence of smaller, simpler tasks
- Use sophisticated **resolution techniques** to synthesize an object not directly annotated

Self-Operating Napkin



Crowdsourcing User-Driven Approaches

- Avoid forcing linguistic abstractions on non-experts
- Treat “the crowd” as experts in everyday language use
- Develop **humanistic criteria**: “Can another person understand this?”
- Embrace **ambiguity and discovery** as part of the process



Example Domain

Question Answering

- What **sections** of a document answer a given question? What are the **best-justified answers**?
- How do we collect **interesting** and **realistic** questions?
- How do we model and account for **ambiguity**?

See Kwiatkowski *et al.* (2019) and [blog post](#);
Clark *et al.* (2020) and [blog post](#); Min *et al.* (2020)

Imperial Palace

the free encyclopedia

Imperial Palace (皇居 *Kōkyō*, literally "Imperial Residence") is the primary residence of the emperor of Japan. It is a large park-like area located in the Chiyoda ward of Tokyo and contains buildings including the main palace (宮殿, *Kyūden*), the private residences of the Imperial Family, an archive, museums and administrative offices.

The total area including the gardens is 1.15 square kilometers. During the height of the 1980s Japanese property bubble, the palace grounds were estimated to be worth more than the value of all of the real estate in the state of California.^{[2][3]}

ts [hide]

title
category
palace

short answer

Question: Who lives in the imperial palace in Tokyo?

Long Answer: The Tokyo Imperial Palace (皇居, *Kōkyō*, literally "Imperial Residence") is the primary residence of the Emperor of Japan. It is a large park-like area located in the Chiyoda ward of Tokyo and contains buildings including the main palace (宮殿, *Kyūden*), the private residences of the Imperial Family, an archive, museums and administrative offices.

Short Answer: the Imperial Family

Selected References

- Chang et al. 2016. [Linguistic Wisdom from the Crowd](#). In *Crowdsourcing Breakthroughs for Language Technology Applications* (HCOMP 2015).
- Clark et al. 2020. [TyDi QA: A Benchmark for Information-Seeking Question Answering in Typologically Diverse Languages](#). In *TACL*.
- Kwiatkowski et al. 2019. [Natural Questions: A Benchmark for Question Answering Research](#). In *TACL*.
- Min et al. 2020. [AmbigQA: Answering Ambiguous Open-domain Questions](#). In *Proc. EMNLP*.