

Idea Contest @ Sonen

Presented by Eirik Kvalheim



Læreplan i Anvendt Matematikk og Robotikk -
Programfag i Utdanningsprogram for Yrkesfag med
Studiekompetanse

Eirik Kvalheim og James Fox

October 13, 2018



Pipeline for a mobile robot (Self Driving Car)



Concept

- Sketch and present an idea for an electric vehicle
 - This will be IFI-Makers Mascot
- Build the vehicle before end of July
 - Project should be > 60% done
 - Show the project at H19 “fadderuke”
 - Present it for DnB Sparebankstiftelsen
- Apply for additional funding if needed
- Have fun doing awesome stuff
 - Gain practical experience
 - Get awesome at doing project work



Electric Vehicle?

- Something that is electric and moves in the world
 - Air
 - Land
 - Water
 - Mix
- Add some sensors and you got a Robot



So what do you want to make?





SWITCH



SWITCH



SWITCH



Michelin Challenge Design



Some sort of self balancing vehicle?



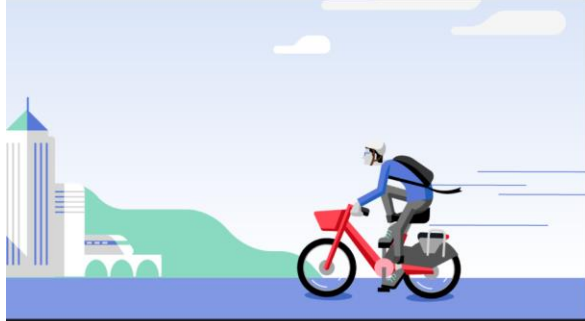
www.uber.com/nb-NO/ride/uber-bike/

Uber Kjør Reis Bedrift Flere Logg på Registrer deg

Introducing JUMP

Now, you can find and rent an electric bike using your Uber app. Select Bike, and enjoy the ride.


Move through traffic faster, easily ride up hills, and reach your destination without breaking a sweat.



The Bikes

JUMP bikes are pedal-assist electric bikes, so the harder you pedal the faster you'll go. An integrated GPS and lock means that you can find a bike near you, and go for a ride.

Go further, get there faster, and have more fun.



Last Mile Electric Vehicles



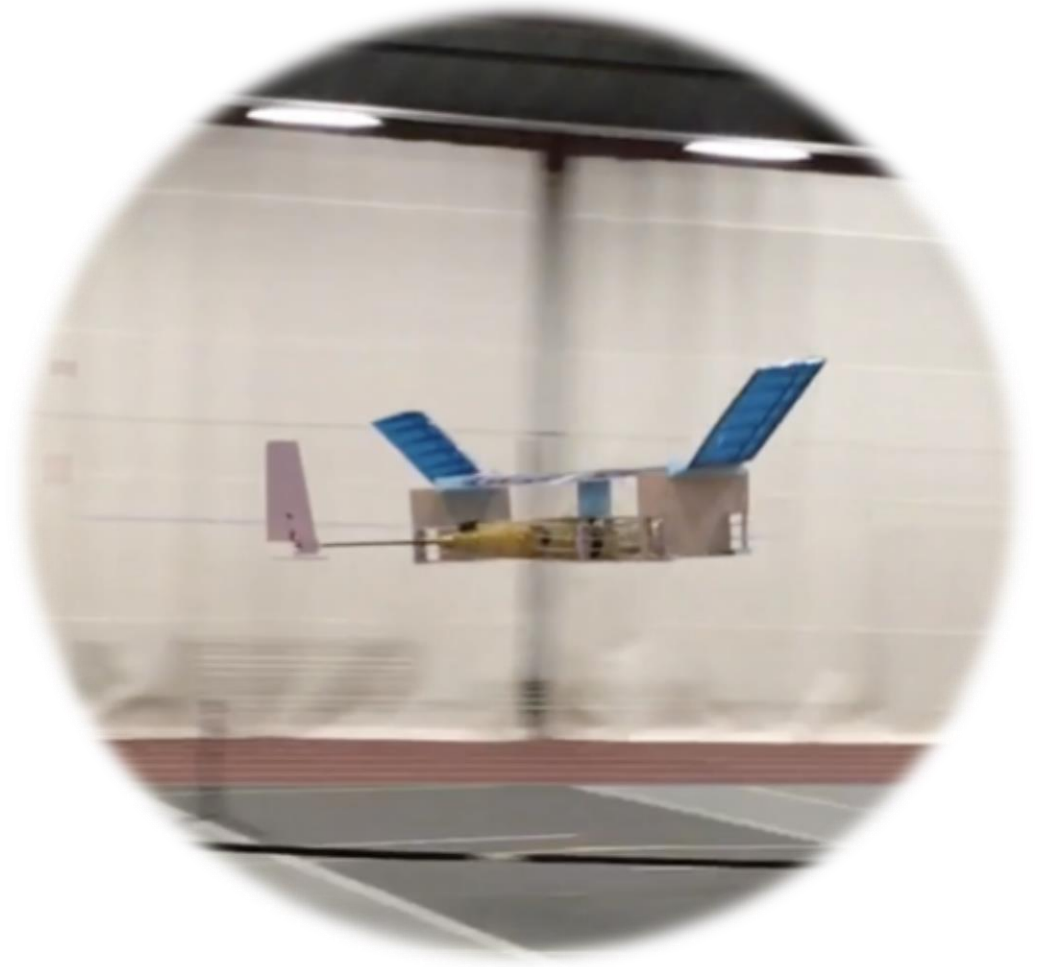
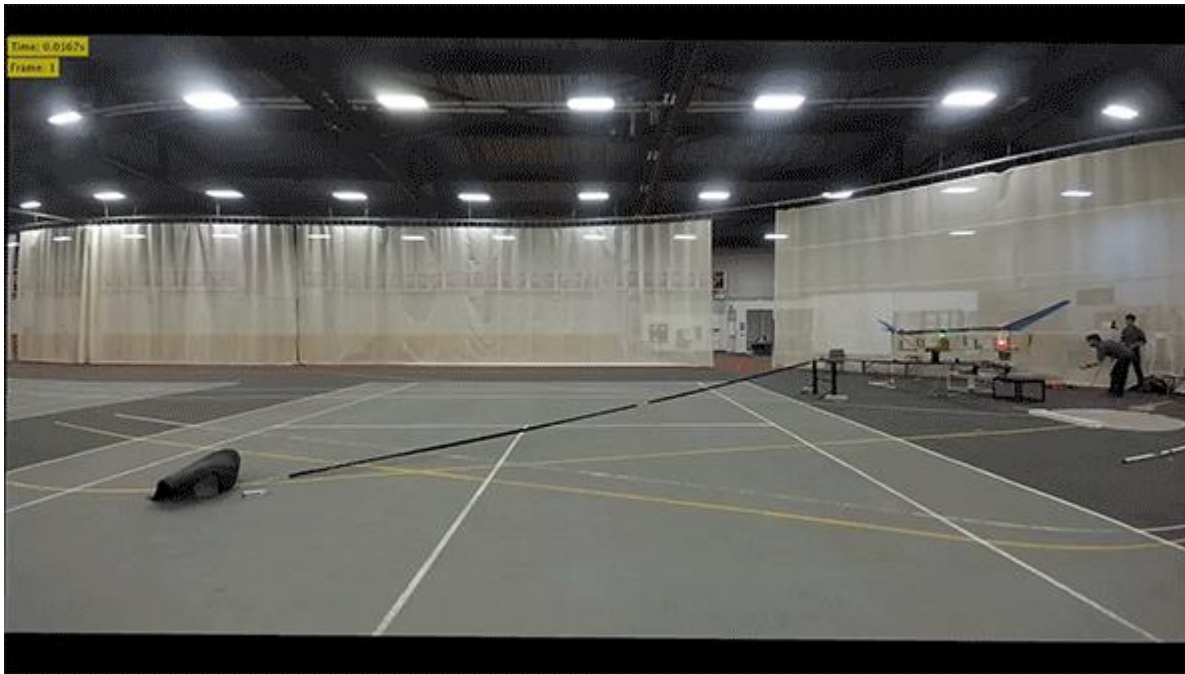
Dualtron Spider

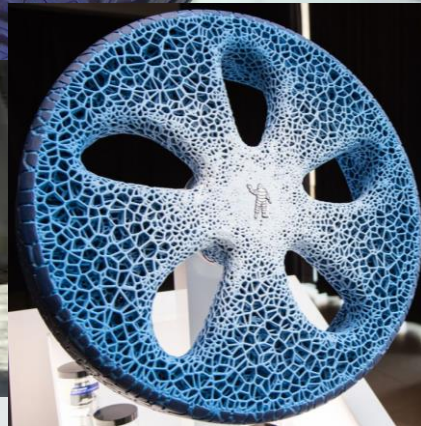


Walkcar

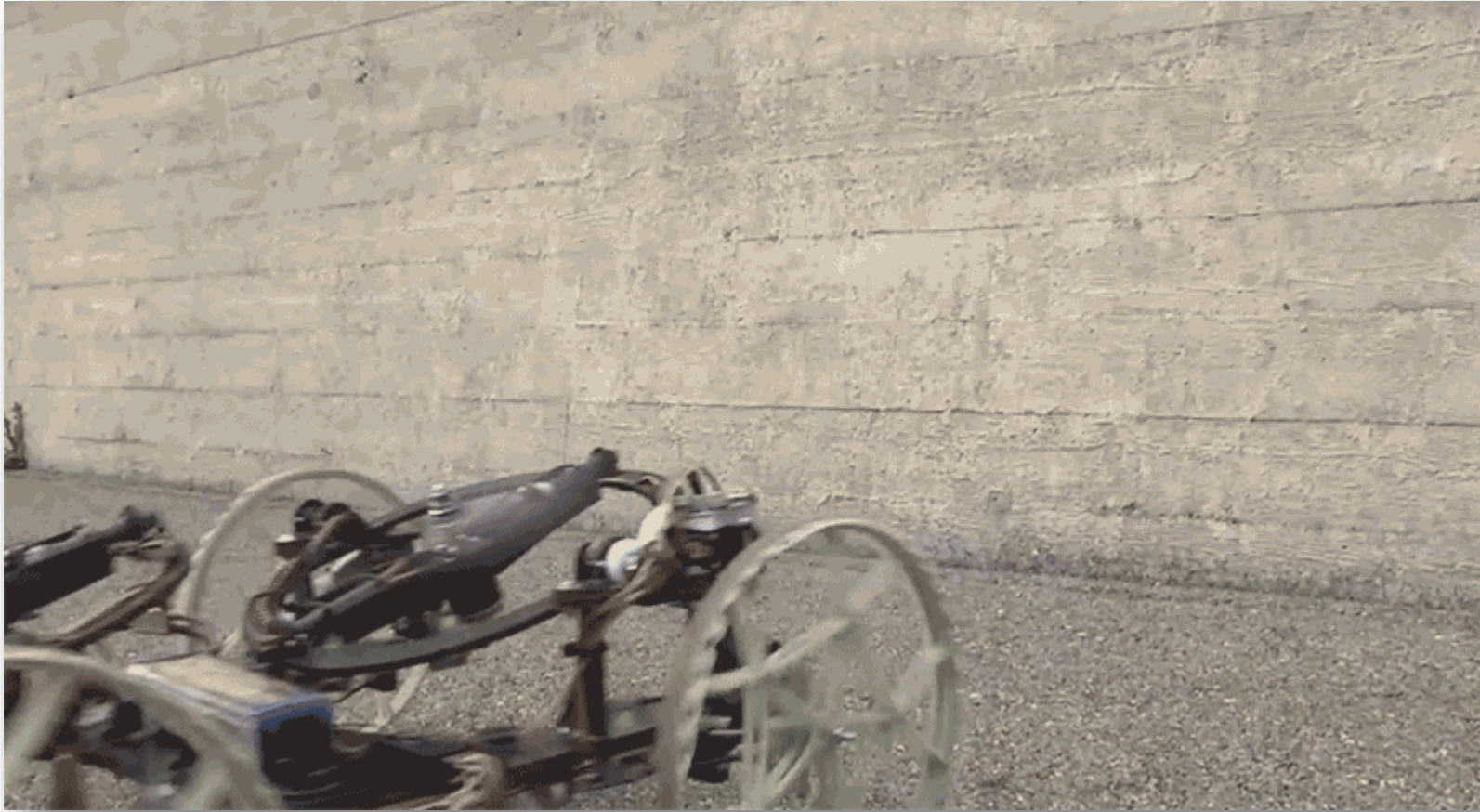


Solid state (ionic) propulsion flight





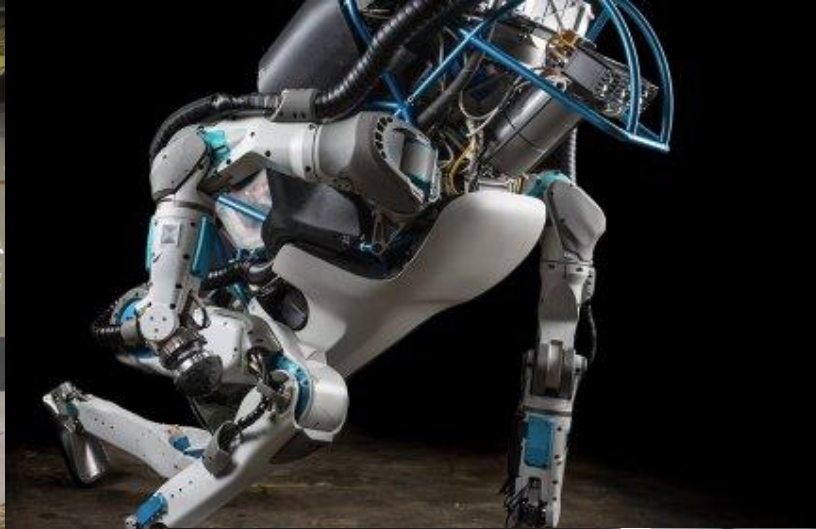
Wall climbing Disney robot?





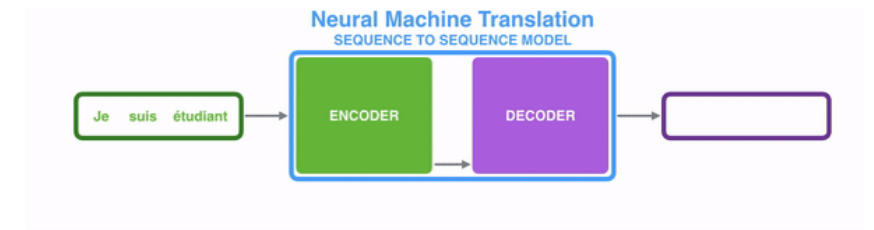
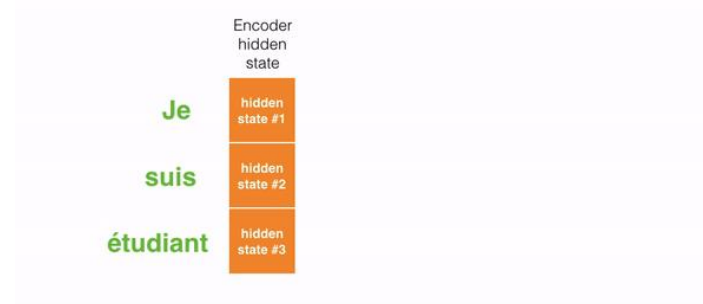


Boston Dynamics



2018 – The year of NLP Breakthroughs

- [ULMFiT](#)
- [ELMO](#)
- [The Transformer](#)
- [Attention](#)
- [Open AI Transformer](#)
- [BERT](#)

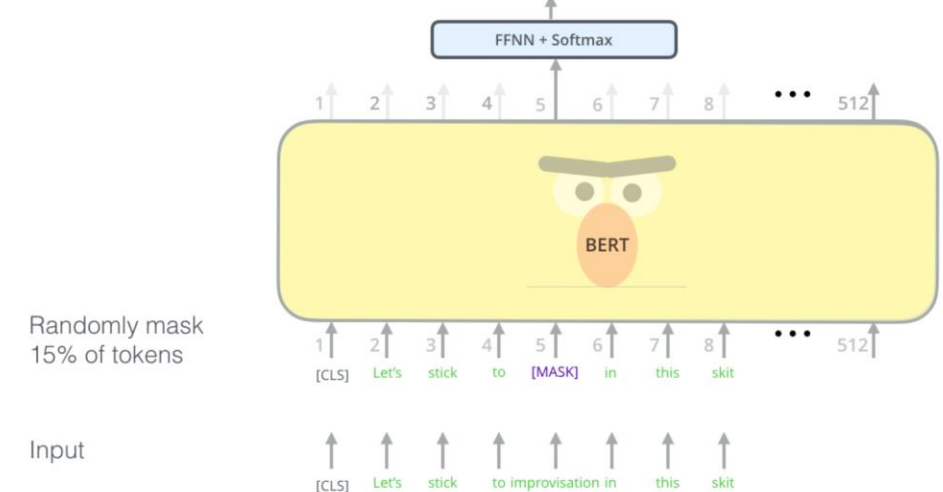


BERT

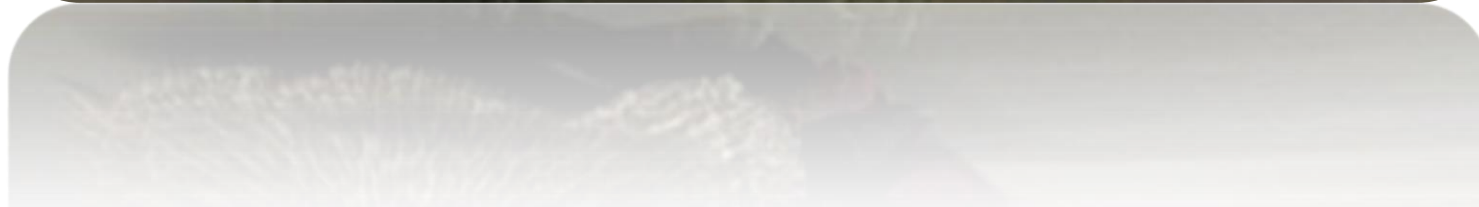
Use the output of the masked word's position to predict the masked word

Possible classes: All English words

0.1%	Aardvark
...	...
10%	Improvisation
...	...
0%	Zyzyva



Tired of looking for a place to work @IFI?



Top Tips

- Map your team's field of interest and area of expertise/knowledge
 - Pursue what you're passionate about!
- Actuators which moves stuff on the vehicle is generally popular
- Breakthrough innovation usually comes from utilizing many small innovations
- Ideas spark Ideas – Get inspired!



Evaluation

- Timetable
- Realism
- Wow factor
- Creativity
- Enthusiasm
- Concept and Idea

