

# What is happening in AI and what can an AI centre in Turku do?

Kaj-Mikael Björk

Director of CIC (Centre for Intelligent Computing) - Turku

Presentation Ennakointiakatemia, 7.2.2024

[cic.utu.fi](http://cic.utu.fi)

# What is CIC (Centre for Intelligent Computing?)

- ▶ Starting from suitable research groups from University of Turku and Åbo Akademi, but not forgetting TurkuAMK and Novia
- ▶ Creating a virtual entity of AI researcher
  - ▶ To gain visibility
  - ▶ To combine forces
  - ▶ To grow together
- ▶ CIC is hosted by Business Turku, and the slim organization (management) funded by the City of Turku

# Why CIC? - Turku has world class Machine Learning and AI research!

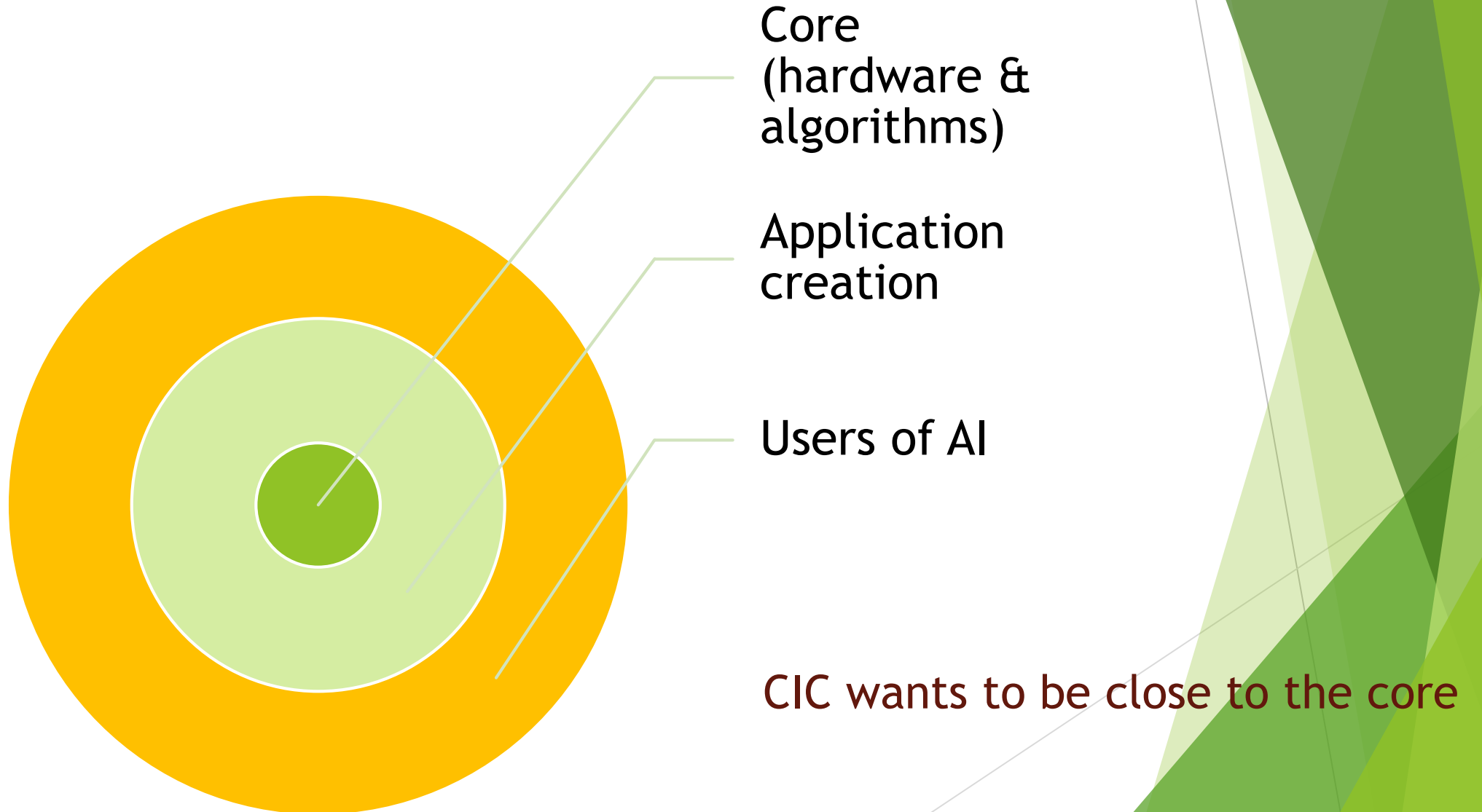
- ▶ Long and trusted AI research in Turku for several decades already
  - ▶ For instance TurkuNLP is perhaps the best known NLP group in Finland
- ▶ Similar Centers has been created with great success and impact
  - ▶ Mila (Quebec - Canada)
    - ▶ More than 1000 researchers in AI
    - ▶ <https://mila.quebec/en/>
  - ▶ Safe (Stanford, US)
    - ▶ Stanford Center for AI Safety
  - ▶ FCAI (Helsinki, Finland)
    - ▶ Very broad, but biggest in Finland

# The mission - CIC

- ▶ Create world class research in the field of intelligent computing in human-like AI and other sorts of intelligent computing
- ▶ Create the grounds for top industry and interdisciplinary academic players to solve a selection of AI problems together
- ▶ Communicate and disseminate novel AI methods with top researchers in the world

**CREATE AN AI HUB THAT WILL ADD VALUE  
ON BOTH A LOCAL AND A GLOBAL SCALE**

# AI Layers



# ChatGPT - what has happened?

- ▶ A couple of years of development successfully made a “talking machine”
  - ▶ Passes the Turing test
  - ▶ Makes “intelligent” conversations
  - ▶ Learning over boundaries
- ▶ But also other progress has been made (in the shadow of ChatGPT)
  - ▶ AutoML
  - ▶ Computer vision
- ▶ And other applications are still in focus
  - ▶ Self-driving, autonomous vehicles, Robotics et cet

# What is happening

- ▶ More intelligent Chatbots
- ▶ Multi-modal generative AI
  - ▶ Everyone seems to be running this direction
- ▶ Applying generative AI “everywhere”
- ▶ Misuse of Generative AI
  - ▶ From fake news to fake everything
  - ▶ “Don’t trust everything you hear (and see and read)” gets a whole new meaning
- ▶ Democratization of AI
- ▶ Regulation of (generative) AI
  - ▶ Face recognition is not something that everyone needs to have

# What will happen in the future (This is the hard part!!!)

- ▶ Changing the work picture for many (if not all) groups of knowledge workers
- ▶ Changing how to do education
  - ▶ At the same time the importance of a strong education is getting more crucial
- ▶ But how exactly?
- ▶ Will we get a superintelligence taking over the world (ie. Matrix, Skynet et cet)?
- ▶ Futuristic research one of the most difficult kind of research
  - ▶ How was 2023 expected to look like in the 1960's?
  - ▶ What is difficult and what is easy?



# Back to the future

- ▶ The role of quantum computers....
- ▶ Connecting generative AI with other systems (is this creating a Superintelligence?)
  - ▶ Needed to solve many day-to-day problems
  - ▶ LLMs, NLPs the new interface, Google 2.0 (or 3.0)
- ▶ Humans managing sets of systems and not only one system at a time
  - ▶ Humans are still in control, above the systems (if we want to be 😊 )
- ▶ A lot of noise
  - ▶ In information and elsewhere
  - ▶ The role of assessing correctly a text or code is emphasized (what is the truth?)

# What can CIC do for a better AI future, example LLM?

- ▶ Turku can be on the forefront of developing trustworthy AI tools for the future
  - ▶ For instance in the realm of NLP and LLM's
  - ▶ The Collaboration between TurkuNLP and SiloGen is producing open LLM models (lead by Sampo Pyysalo from the UTU side)
  - ▶ The open models (called Poro) is trained on many (European) languages and also some computer languages (on LUMI)
  - ▶ These can be used for in multiple domain, including health tech, to provide entirely new services
  - ▶ And open does mean open in this case (maybe not so much in openai)
- ▶ Making their own services based on the open models requires some work, however

# What is needed in order for AI to happen even more in Turku?

- ▶ Collaboration
  - ▶ Within Turku
  - ▶ In Finland
  - ▶ Globally
- ▶ Thinking out of the box
  - ▶ If we do things as we always has done, we will not change much (very obvious statement 😊)
  - ▶ Top level management and political support for a change
    - ▶ Top management in universities need to really realize that AI is happening
  - ▶ Companies and universities in closer collaboration

# THANK YOU !!!

▶ Questions and comments....