R/SE

PRISONERS INVOLVED IN THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE – PILOTING NEW PRISON WORK

OFFENDER MANAGEMENT: TRADITION AND TECHNOLOGY
21-22 May 2019 Ayia Napa, Cyprus

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3 points

- What is artificial intelligence?

- How can it be used in prison labour?

- Why do we find it beneficial?

New opportunities in prisonwork activities

❑ Society and labour market change constantly. The goal of the work activities arranged in prison is to increase the prisoners' abilities to live without crime by improving their employment skills.

❑ The Criminal Sanctions Agency aims to develop the work activities continuously to correspond better to the modern labour market requirements.

❑ Therefore, it is important that those responsible for prison work actively and open-mindedly follow the new employment opportunities, which may arise from, for instance, the development of technology.

New opportunities in prison work activities

❑ In the modern world, social inclusion requires the use of information technology. An increasing number of services provided by society are electronic and available online.

❑ Digital skills are necessary at school or work: it is practical that prisons arrange activities that teach and develop the prisoners' digital skills.

❑ Competently guided work with computers can also reduce the possible fears and difficulties connected with the use of computers that some prisoners may have.

❑ Future prisons should function as a learning environment for a life withouth crime in the modern society.

New opportunities in prison work activities

❑ Artificial intelligence creates new kinds of opportunities – in prison, too.

❑ The development is so fast that we cannot even begin to imagine all the possibilities it can offer. In addition, machine learning can be utilised in the employment of prisoners.

❑ The use of technologies that are based on artificial intelligence changes the current perspective on employment and required skills.

❑ In future, electronic services and environments enable working in prison on a computer to, for instance, teach an AI like in this pilot launched in Finland.

Additional benefits

❑ The work can be done in a closed environment and also by prisoners who cannot be placed in traditional work groups or workshops.

❑ The work is flexible, does not require large facilities or investments.

❑ The prisoners can be taught to do it in a short period of time, which in turn enables also those prisoners, who serve a short sentence, to work.

❑ Work offers more cognitive challenge than many of the traditional routine tasks often done in prison.

❑ The prisoners may also be motivated by the fact that they can participate in some modern activity, such as the development of artificial intelligence, instead of packing screws.

What is artificial intelligence and what does its development mean?

❑ Artificial intelligence means programmes that can learn and make decisions like humans.

❑ With the help of AI, machines, devices, programmes, systems, and services can function in a rational manner according to the task and situation.

❑ Digitalisation has already created large data sets and more and more data is still accumulating at an accelerating pace. A notable increase in the processing capacity of the computer systems and a decrease in their costs have made it possible for more users to process large data sets and develop new algorithms for using the information.

What is artificial intelligence and what does its development mean?

❑ Machine learning is such a central concept in AI that it is often used as a synonym for AI. Altought AI is actually a broader concept.

❑ In fact, machine learning refers to data processing where the computer learns to recognise patterns without being explicitly programmed.

❑ Teaching the machine and compiling the training data is often the most challenging phase of the development of AI applications.

❑ The pilot launched by the Criminal Sanctions Agency in cooperation with a company called Vainu concerns the production of the training data.

How is it done in practice?

❑ Co-operation with AI company Vainu

❑ The operation of Vainu is based on information retrieval. Vainu reads every day thousands of Finnish texts that concern business companies. The texts can be gathered from the news, company websites, social media, or other documents.

❑ The prisoners' task is to train the AI to find correct information for Vainu.

❑ The prisoners participating in the pilot read texts selected by Vainu on a computer and answer simple questions, such as "Did this article concern company acquisition?". The same question is repeated several times to different people and, thus, it creates a high-quality training data that can teach the AI of Vainu. That improves Vainu's business database, which in turn helps Vainu's clients, who work on divestments, to choose their targets better.

Piloting now

❑ Company is interested in this cooperation is that it is not possible to process material that is written in Finnish in any other country.

❑ The work done by the prisoners helps the Finnish clients of Vainu to target their sales better but, at the same time, the new kind of work teaches the prisoners' skills that are linked to learning and employment.

❑ The pilot was launched in March 2019 and it involves two closed prisons, which have ten workstations in all assigned for the work at the moment.

Piloting now

❑ In the first pilot prison, female prisoners have already been doing the work and, in the other pilot prison, work has just been started in one of the male prison wards.

❑ The prisoners can work flexibly part-time.

❑ The same workstation can be used by several prisoners; for instance, one prisoner can work in the mornings and another prisoner in the afternoons.

❑ The prisoners log on to the computer to do the tasks by using an individual code they get from the staff.

❑ Vainu gets information on each completed task but the identity of the prisoner remains secret.

Example task

The task is to treat, or paint with, the text of companies/organizations (green), Locations (yellow), names of people (red), and work titles (viol). The purpose of the task is to consider the context.

○ MTurk ○ NER

Bitty and Beau 's ORG Set to Open Savannah LOC Location This Weekend

SAVANNAH , Ga. LOC -- Bitty and Beau ' s Coffee ORG will open its third location in Savannah LOC this weekend . The Wilmington-based LOC coffee shop will host a ribbon-cutting ceremony on Saturday . Since its opening in January 2016 , Bitty and Beaus ORG owners TITLE Amy PER and Ben wright PER have been advocates of inclusivity , employing people with intellectual and developmental disabilities . The store rose to international prominence after Amy Wright PER was named the CNN Hero of the Year in 2017 . This will be store 's third location , with the second being in Charleston LOC . READ MORE

The task is to treat, or paint with, the text of companies/organizations (green), Locations (yellow), names of people (red), and work titles (viol). The purpose of the task is to consider the context, i.e. The city of Helsinki must be marked as an organisation (and not a location) in those situations where the city of Helsinki refers to the company. (For example: the city of Helsinki hires 1000 summer workers. ")

○ vainu_testaaja2   ○ vainu_testaaja4   ● vainu_testaaja1   ○ NER

Sähkösuunnittelija TITLE
Lohjan Sähkö ja Automaatio Oy ORG on v. 1990 perustettu sähköurakointiin ja teollisuusautomaatioon keskittyvä yritys . Toimimme Lohjan LOC lähialueella teollisuuden ja kiinteistöjen kunnossapidossa , saneerauksissa sekä uudisasennuksissa . Kokoamme lisäksi ohjaus- ja moottorikeskuksia sekä alihankintana että omiin asiakasurakoihin . Lisäksi meillä on vahva osaaminen automaatiosuunnittelussa . Toiminnallemme on tunnusomaista pitkät työsuhteet ja tyytyväiset asiakkaat . Sähkösuunnittelijaa TITLE Etsimme kokenutta Sähkösuunnittelijaa TITLE . Toimit sekä projekteissamme sähkösuunnittelijana TITLE että teet itsenäisesti sähkösuunnittelua asiakkaan toimeksiantona . Hakemallamme henkilöllä on : Tehtävään soveltuva koulutus , Ins tai DI Mielellään kokemusta käyttämistämme ohjelmistoista ; Eplan ja CADS Halu oppia uutta vaihtelevassa ympäristössä Kokemus käyttöönotoista on eduksi Matkustusvalmius on plussaa Tarjoamme joustavan ja mukavan työyhteisön vakavaraisessa yrityksessä sekä tietysti kilpailukykyisen palkkauksen asianmukaisine etuineen . Hakemukset palkkatoiveineen osoitteeseen kimmo.lehtonen @ lsa.fi Lisätietoa tehtävästä antaa Tomi Turunen PER 040-4559606 , tomi.turunen @ lsa.fi WWW-osoite http : //www.lsa.fi Yhteystiedot Lisätietoa tehtävästä antaa Tomi Turunen PER 040-4559606 , tomi.turunen @ lsa.fi Työpaikan osoite Asemanrinne 15 , LOC 08500 LOHJA LOC Työ alkaa Sopimuksen mukaan Työaika kokoaikatyö Työn kesto yli 12 kuukautta Jätä hakemus kimmo.lehtonen @ lsa.fi Ilmoitus jätetty 05.04.2019 Ilmoitusnumero 9917818 Ilmoituskanava : TE-palvelut

How is security ensured?

The workstations do not have free access to the Internet. We have made an agreement with Vainu on the security conditions and they have been checked. The workstations can only be used for the reading tasks determined by Vainu.

- The agreement on the equipment includes the following information.
- **Highly restricted user interfaces**
    - The worker uses a computer, which is in a so-called kiosk mode and can only access the microtask application of the company. These kind of single application computers are commonly used, for instance, as ticket machines at the train stations.
- **Restricted mobile interfaces**
    - Each laptop has a pre-installed SIM card.
    - The SIM card cannot be removed or changed without breaking the seal.
    - The Internet connection has access to only predetermined domains (for example, the allowed addresses have to have a specific beginning, such as https://data.vainu.io/micro_tasks/).
    - The IP restrictions are hardcoded in the SIM cards by the operator.
- **Stateless users**
    - When the computer is shut down, no data is stored in the hard drive of the computer.
- **All external data channels (for instance USB channels) have been disabled**
    - This prevents the use of any external stations in the computer.
- **Unique ID codes (for instance Vainu-tietokone-123) and ID code tags**
    - The codes can be used to trace individual computers in case of possible faults or thefts. The serial numbers of the computers are recorded and linked to the Vainu ID codes also in the company's own data system.

"It is great to be able to contribute to a Finnish AI and especially in such an exceptional environment. The methods themselves are well tested and we have a wide experience in it in English but developing AI in this scale in Finnish is very innovative", says Tuomas Rasila who is the CTO Vainu.
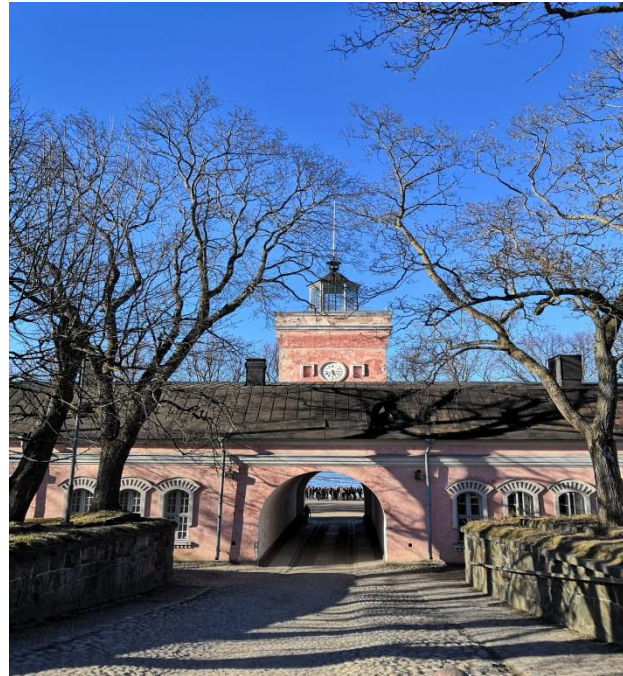
**Thank You!
Merci!
Kiitos!**

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