NEXT-GENERATION ANONYMIZATION TECHNOLOGY

Novel AI-based solutions for the secondary use of sensitive data without compromising data quality or privacy

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VEIL.AI

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ENABLING USE OF SENSITIVE DATA

DEEP TECH COMPANY SPECIALIZING IN PRIVACY ENHANCING TECHNOLOGIES:

- Pseudonymized data
- Anonymized data
- Synthetic data
- Quality Assessment Analysis
- Privacy Risk Analysis

OUR BACKGROUND

VEIL.AI HAS DEEP ROOTS IN SENSITIVE HEALTH DATA

FIMM
Institute for Molecular Medicine Finland
Nordic EMBL Partnership for Molecular Medicine

- FIMM – **Institute for Molecular Medicine Finland** – with 230 employees representing tens of nationalities, is ***focusing on human genomics and precision medicine***

  (Under the umbrella of the Helsinki Institute of Life Science at the University of Helsinki)

Key Data Scientists

- Our key technology experts have an ***experience of 20+ years*** related to demanding sensitive data management projects, such as:

MultipleMS FINNGEN GeneRISK DIGITAL HEALTH REVOLUTION HUB Biobank

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ENABLING USE OF SENSITIVE DATA

- VEIL.AI a spin-out from FIMM, a deep technology company located at Helsinki Meilahti hospital campus
- Founded in 2019
- Part of BioInnovation Institute's Creation-House program (Science City, Copenhagen)
- Member of the iCAN Digital Precision Cancer Medicine competence cluster

PROBLEM AND THE NEED

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DATA IS THE ENABLER AND DRIVER OF THE NEXT BREAKTHROUGHS IN MEDICINE AND HEALTH CARE

CHALLENGES:

Nobody has enough data; **re-use and sharing of existing data** is a must

Sensitivity of data makes re-use and sharing of data very complicated

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ANONYMIZED & SYNTHETIC DATA HAVE GREAT POTENTIAL IN SOLVING THE PROBLEMS OF DATA SHARING

Sensitivity of data makes re-use and sharing of data very complicated

Ask for consent

Often impossible, always slow

Anonymize or Synthetize

Current methods destroy **data quality**

Build federations

Doesn't solve the privacy problem. Poor audit trail

VEIL.AI has solved the **quality problems.** Moreover, our method works with **accumulating data**

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USE CASE EXAMPLE

HOW ADVANCED ANONYMIZATION IS UTILIZED BY A GLOBAL PHARMACEUTICAL COMPANY

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VEIL.AI IS AN ATTRACTIVE PARTNER

Jussi Leinonen
Strategic Project Lead
Bayer

“We want to digitalize clinical trials, improve the health outcomes and reduce the burden on patients

The Future Clinical Trials project aims to speed up drug development and increase safety by forming an ecosystem that is built on world-class artificial intelligence, unique health datasets and specialized technology providers.

In order to establish a trusted environment in the development of this work, we have selected VEIL.AI to assist us with advanced anonymization and the creation of the anonymization concept.”

“Preliminary cost savings estimate is 10-20% depending on the trial. There are also significant drug’s time-to-market time savings.”

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USE-CASE: VEIL ANONYMIZATION ENGINE HELPS PHARMA TO EXECUTE CLINICAL TRIALS OF TOMORROW

"Future Clinical Trials" is Bayer's three-year project aiming to

- *speed up clinical trials*
- *reduce costs*
- *increase patient safety*

The target is to improve Bayer's drug research practices worldwide

Bayer chose VEIL.AI to be their anonymization partner

- Creation of data anonymization concept in order to re-use of (clinical) data
- Advanced anonymization of data for External control arm
- Advanced anonymization of Randomized Clinical Trials data
- Improve Bayer's Data Science capabilities by bringing advanced anonymization to their data analysis platform

- **Merging the subject-level advanced anonymized data with RCT data at Bayer environment**
- **Anonymized RWD and RCT**
- **Preliminary cost savings estimate is 10-20% depending on the trial. There are also significant drug's time-to-market time savings**

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USE-CASE: ANONYMIZED DATA TO BUILD A VIRTUAL CONTROL ARM IN A ONE-ARM CLINICAL TRIAL

A research article "*Utilization of anonymization techniques to create an external control arm for clinical trial data*" under the review process in BMC Medical Research Methodology paper.

The aim of this study was to investigate and compare how well pseudonymized and anonymized RWD perform in the creation of an ECA for an RCT.

The article can be found here: https://www.researchsquare.com/article/rs-2727105/v1

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THE MOST EXPERIENCED EUROPEAN TEAM IN ANONYMIZATION OF HEALTH DATA

Commercial Team

Tuomo Pentikäinen
CEO
20+ years of experience in the management of data-intensive international startups and scale-ups.

Kari Lehtipuu
CCO
25Yr+ sales and marketing experience at C-suite.
Long medical background.

Lauri Kuronen
Key Account Manager

Daniel Ngyuen
Growth Marketing Manager

Competent project mgmt. and deployment team

Technical Team

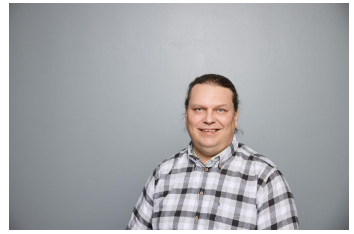
Timo Miettinen
CTO
20+ years experience in data management, data engineering, and high-performance computing in health data.

Mehreen Ali
Research Director
PhD candidate, Machine learning in genomics.

Max Salmi
CPO
10Yr+ sales and product mgmt in health / genomics data.

Robert Mills
Senior Data Engineer

John-Olof Hansson
Head of Cloud Operations



Kimmo Pääkkönen
Senior Data Researcher

Experienced DevOps, cloud back-end and computer science team

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ABOUT BII CREATION HOUSE

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PROCESS

- First application in September 2021
  - rejected because we were considered to be too mature, encouraged to apply for a more advanced programme (Creation house, now Venture house)
- Second application in November, 2021
- Info that we were shortlisted, December 2021
- DD + Reference call, January-February 2022
- Pitch, February 2022
- Acceptance, February 2022
- CLA of 10M DKK negotiations March-June, 2022
  - signing June 2022
  - formal start of the collaboration June 2022
  - VEIL.AI Denmark ApS established, June 2022
- Actual work started, August 2022

EXPERIENCES

- Very useful and professional DD process and pitching
- Very good node for activities
  - but requires active presence in CPH
- Business Finland has been very helpful
- Intellectual support from staff and peers
- BII has amazing commercial networks, they can open doors, but don't expect too much
  - most of their portfolio companies are very clearly pre-revenue
- They have very good VC network, a lot of pitching possibilities
  - (the machine has been optimized for a major A round)
- BII is very well-known and adds your credibility
  - Customers and investors know and follow the BII
  - Very high caliber people are willing to come to see us in the BII premises!
- Any minuses?
  - Some red tape (milestone follow-up), but manageable and understandable amount

SHOULD YOU APPLY

IF YOU QUALIFY ->
DEFINITELY

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THANK YOU

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VEIL.AI has re-invented anonymization in a way that solves access to data and data quality problems. This revolutionaizes how data intensive medical and health care research and operations will be made.