Data Science and Language Technology at Sanoma Media Finland

9/12/23 Lukas Heikkilä, Data Scientist, Sanoma Media Finland

∂s
sanoma
data science

What is Sanoma?

Sanoma Media Finland is **Finland's leading news and media company.** Our newspapers, magazines, tv and radio channels, online and mobile media offer information, experiences and entertainment. Our products reach most Finns every day.

You might have come across brands such as as **Helsingin Sanomat, Ilta-Sanomat, Nelonen, Ruutu** and **Supla** and there are many more.

ROCKFEST

HELSINGIN SANOMAT

supla

ILTA-SANOMAT

AKU ANKKA

ruutu

Lukas Heikkilä, Data Scientist, Sanoma Media Finland

Data Science at Sanoma

We leverage our expertise in Artificial Intelligence to amplify business impact and catalyze Sanoma's digital transformation. Here are some examples of our work areas:

Personalization

- News Frontpage personalization in Helsingin Sanonat, Ilta-Sanomat, Aamulehti and Satakunnan Kansa
- "Because you watched these ..." (Ruutu and Supla) and "Also read these" (News)
- Personalized push notifications and emails

Audience Segmentation

- Demographics
- Interest and Buying Intent
- Geo-segments
- Lookalike modeling

Insights & Decision Support

- Audience Reporter for B2B customers
- Exploratory Data Analysis
- NPV and Item sales prediction

Editorial Analytics

- Headline performance and audience response prediction
- Dynamic paywall bot

... and much more

- Ad-Inventory Forecasting
- Marketing automation
- Churn / retention modeling
- New product development

Online User Profiles: Targeted Advertisement at Scale

- **Targeted audience segments** offered to our **B2B advertisement customers**, such as Age, Gender, Interest and Life Phases throughout Sanoma's extensive product portfolio

- We offer **additional targeting services for our partners**, such as custom segments and lookalike segmentation based on our partner's CRM audiences

- Segments are **based on our audiences' online behavior** in Sanoma's product network

- The solution combines **Natural Language Processing** and **Deep Multitask-Learning** for online predictions

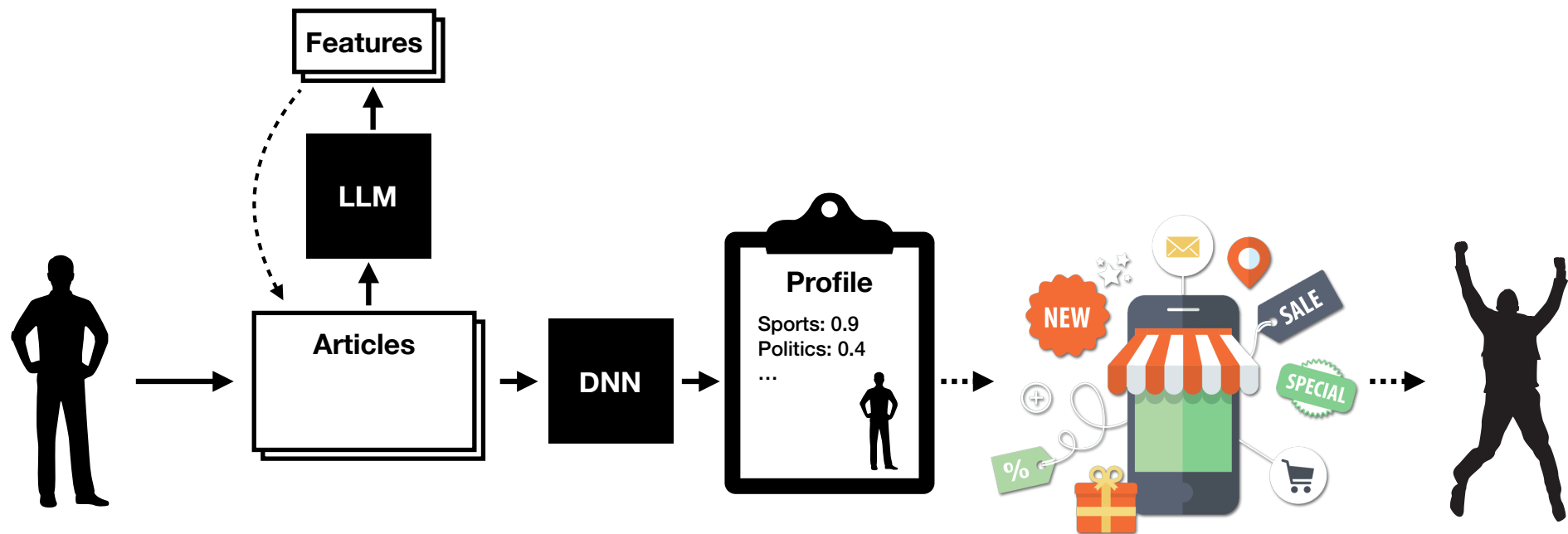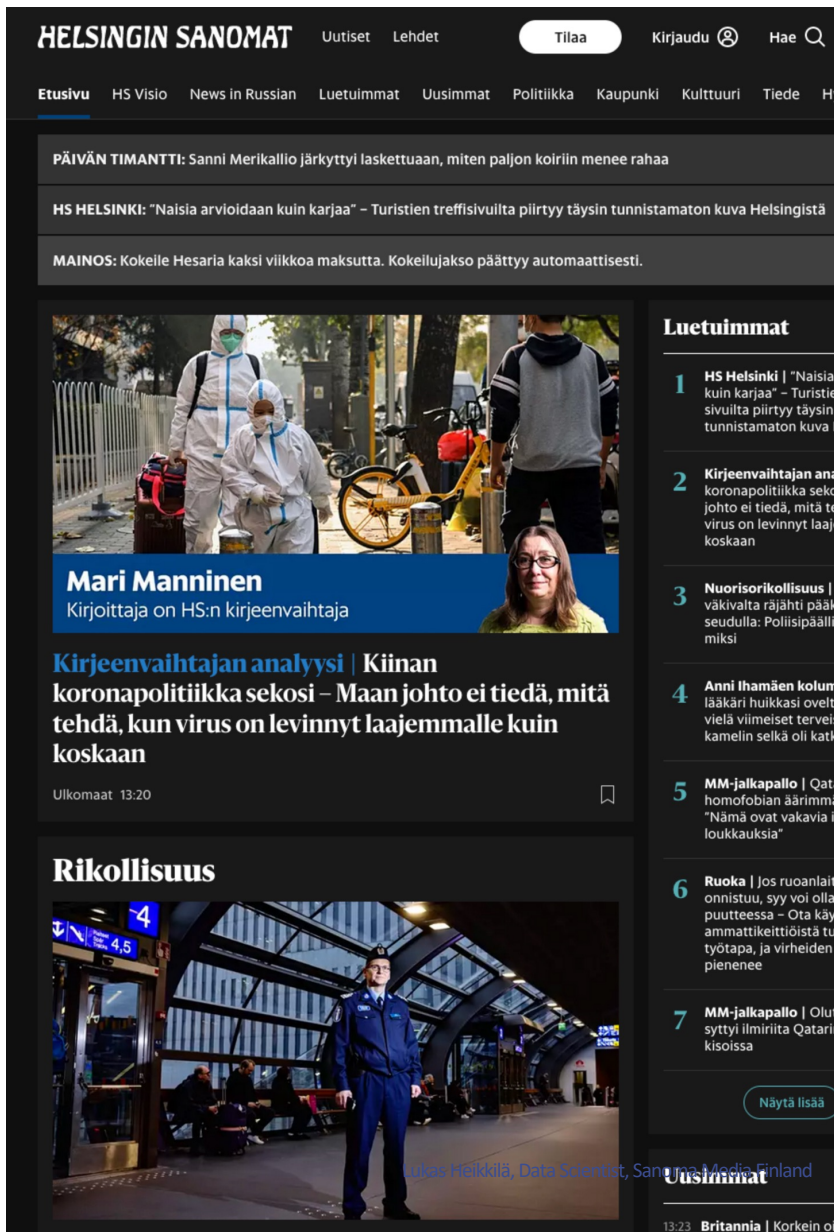| Products	Category	Impact	Tech
All Sanoma Products, B2B advertisement solutions	Targeting and Segmentation	Millions annual direct income from B2B partners	NLP, Deep Learning, MLOps

Online User Profiles: Targeted Advertisement at Scale
How it works: A simplified pipeline overview

Lukas Heikkilä, Data Scientist, Sanoma Media Finland

Explainable, trustworthy and interactive news personalization

- Readers of **Helsingin Sanomat**, **Ilta-Sanomat**, **Satakunnan Kansa** and **Aamulehti** receive a fully **personalized front-page** that **incorporates** the **editorial vision**

- The solution is developed in tight collaboration with the editors and follows strict journalistic guidelines. Editors can interact with the system to react quickly to the fast-paced news cycle

- **Continuous A/B testing** with MLOps infrastructure enables fast improvement cycle

- Result: **increased engagement** (+5-8% pageviews) translating **millions in additional annual revenue.**

- The work has **won international prices** such as gold at the INMA award 2022

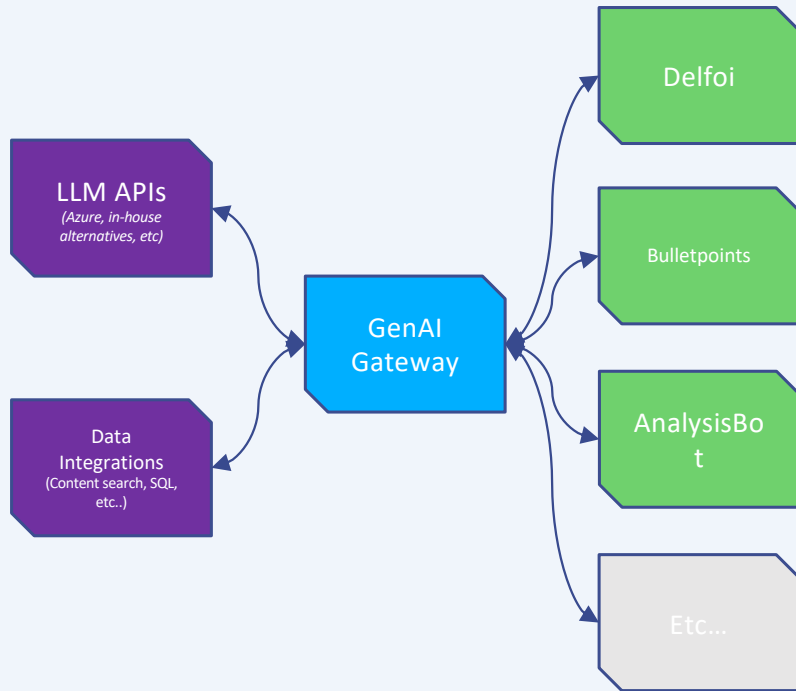| Products	Category	Impact	Tech
Helsingin Sanomat, Ilta-Sanomat, Satakunnan Kansa, Aamulehti	Personalization	5-8% CTR uplift 2-5% pageviews/user uplift > 6 digits annual revenue	Probabilistic Machine Learning, Ethical and Explainable AI, MLOps and continuous testing

Powering rapid GenAI feature iteration and production cycle with GenAI Gateway

- When GenAI prototyping is **more than simply prompt-engineering**, infrastructure and integration set-up overhead begins to mount

- Prototyping more complex applications **is made easier** when **data integrations** and **LLM set-up and monitoring** is already done

- The **proof-of-concept to production cycle** is significantly shorter for new products that can use the Gateway

- The goal is to enable us to more easily make unique GenAI solutions **that SaaS can't easily provide** and **that are differentiating from our competition**, such as solutions tightly connected to our performance and content data

Products	Category	Impact	In Collaboration With
All Sanoma products	Enablement, Productivity, Data Citizenship	Reduced effort in GenAI work	Data Capabilities Team

Join us!

We're always on the lookout for great candidates and thesis interns.

We are looking for Master's thesis interns and summer trainees, and potentially longer traineeships are possible as well.

Also, we're always looking for data professionals in Data Science, Data Engineering and Online Analytics.

Interested? Get in touch

Clemens Westrup, Head of Data Science
clemens.westrup@sanoma.com