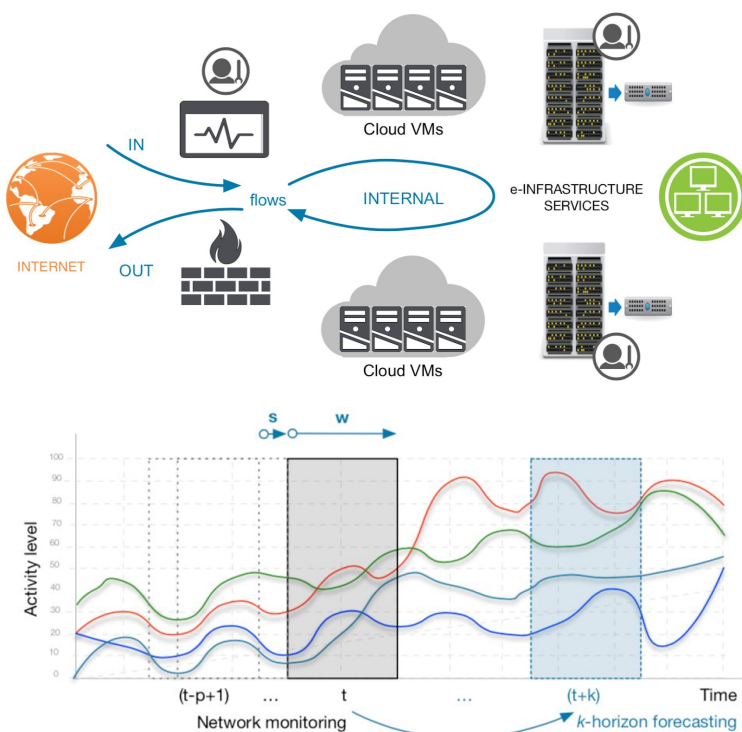


PROACTIVE NETWORK MONITORING

Time-series forecasting, abnormal state detection



Intelligent module for proactive network monitoring and security protection

Time-series forecasting, abnormal state detection

Enhancing functionality of surveillance Intrusion Detection System

Challenge dynamic and evolving network environments

Machine learning
application with
deep learning
modeling

EU H2020 DEEP-HybridDataCloud

Use Case:
Network monitoring and security protection for
computing infrastructure

Team

Giang Nguyen, Štefan Dlugolinský, Viet Tran,
and Ladislav Hluchý



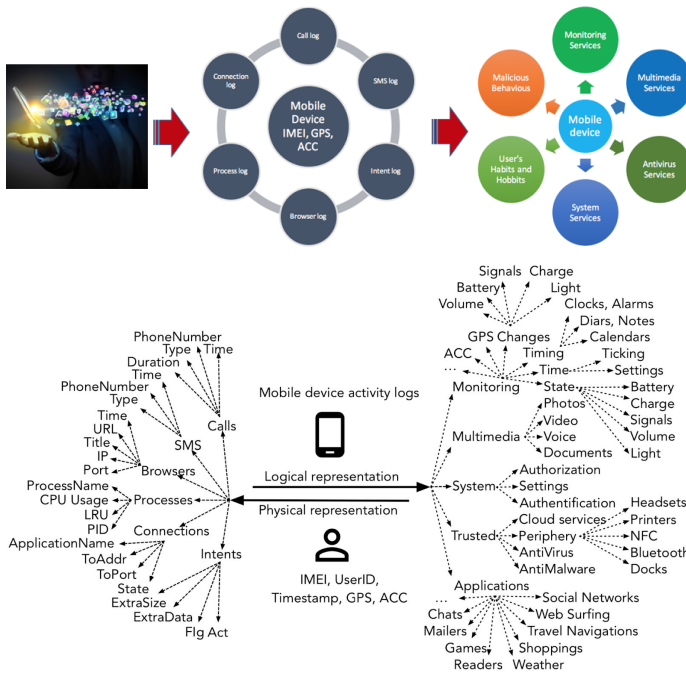
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



giang.nguyen@savba.sk

SUSPICIOUS ACTIVITY DETECTION

Detection of suspicious activities based on mobile logs



Cyber-security awareness
for mobile device users

Abnormal behavioural
detection based on
collected mobile logs

Incremental machine
learning solution for
private mobile network

Privacy preserving data
mining due to sensitive
personal information

**Commercial
contract**

**IBM Slovakia
Tempest a.s.**

Team

**Giang Nguyen, Štefan Dlugolinský, Viet Tran,
and Ladislav Hluchý**



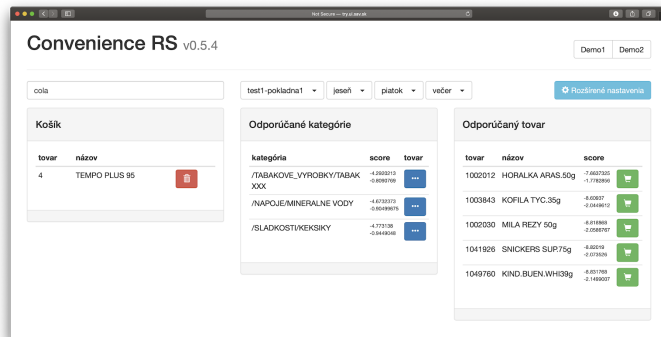
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



giang.nguyen@savba.sk

SHOPPING CART ITEM PREDICTION

Proactive sales support based on historical transactional data



Innovation of the business sale model and deriving benefits from transactional data

Understanding and providing better services for customers



Increasing the number of sold items per visit

Dynamic category/item prediction based on shopping cart content

**Exploratory
Data Analysis**

Slovnaft a.s.

Demo

<http://try.ui.sav.sk/convenience-rs/>

Team

Štefan Dlugolinský, Martin Šeleng, Giang Nguyen,
and Ladislav Hluchý



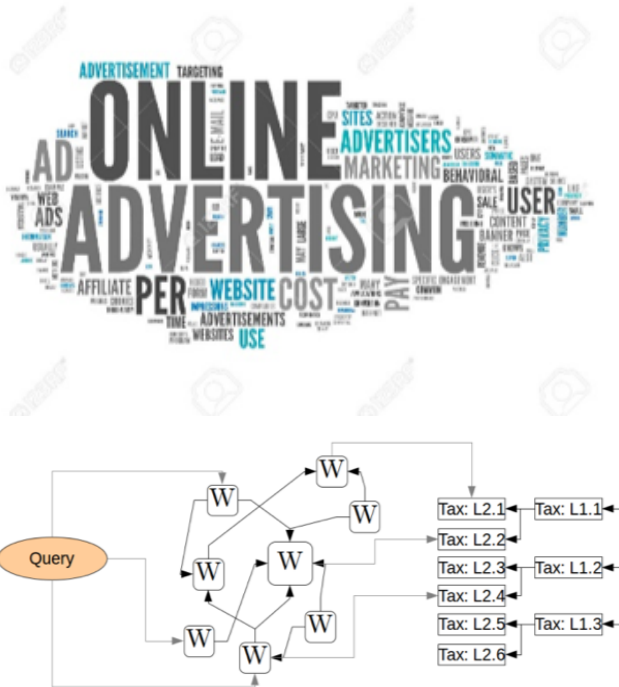
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



stefan.dlugolinsky@savba.sk

TARGETED ONLINE ADVERTISING

Intent-Search Query categorization, Click-Through Rate prediction



Big Data processing and targeted advertising engines

Boost online targeting revenues

- Intent-Search Query categorization
- Click-Through Rate prediction
- Query Primary Language based on keyboard identifications
- User modelling
- Fraud detection

Commercial contract

Magnetic Media Online, Inc., NY, USA

Team

Michal Laclavík, **Martin Šeleng**, Marek Ciglan, Štefan Dlugolinský, Giang Nguyen, and Ladislav Hluchý



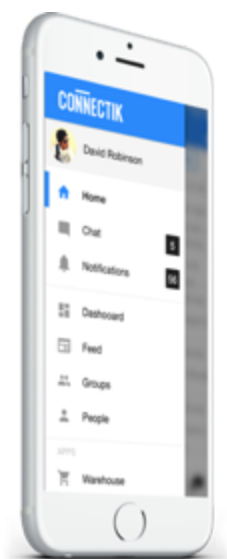
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



martin.seleng@savba.sk

UNIFIED COLLABORATION ENGINE

Recommendation engine for collaboration



Recommendation engine for communication and collaboration for enterprises

Suggests interactions for users/posts/groups.

Users and groups modeling are built with content-based filtering and temporal decay.

Commercial contract

Connectik, Switzerland

Team

Martin Šeleng, Štefan Dlugolinský,
and Ladislav Hluchý



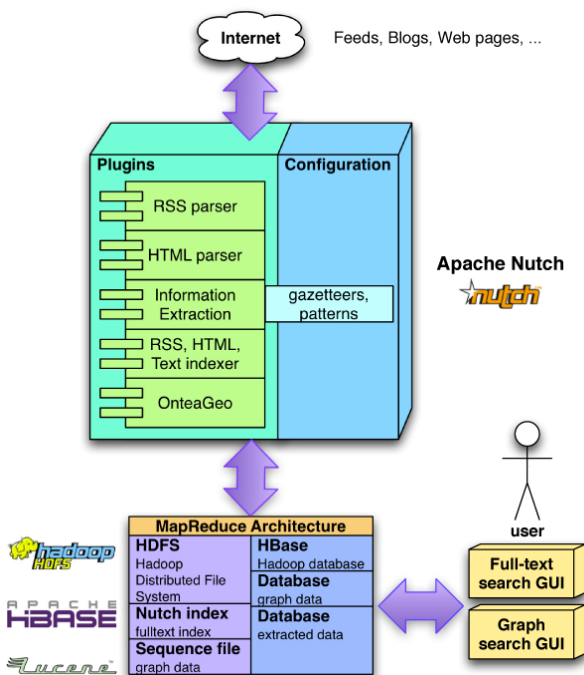
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



martin.seleng@savba.sk

DISCOVERY PLATFORM

Indexing, Extraction and Search at scale



Discovery platform delivers configurable platform for indexing, searching and extracting features defined by users from monitoring web content.

The search and discovery functionalities are powered and improved by the semantics and AI techniques



Commercial
contract

SCS Group, Switzerland

Team

Michal Laclavík, **Martin Šeleng**, Marek Ciglan, Štefan Dlugolinský, Zoltán Balogh, Emil Gatial, and Ladislav Hluchý



Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava



martin.seleng@savba.sk