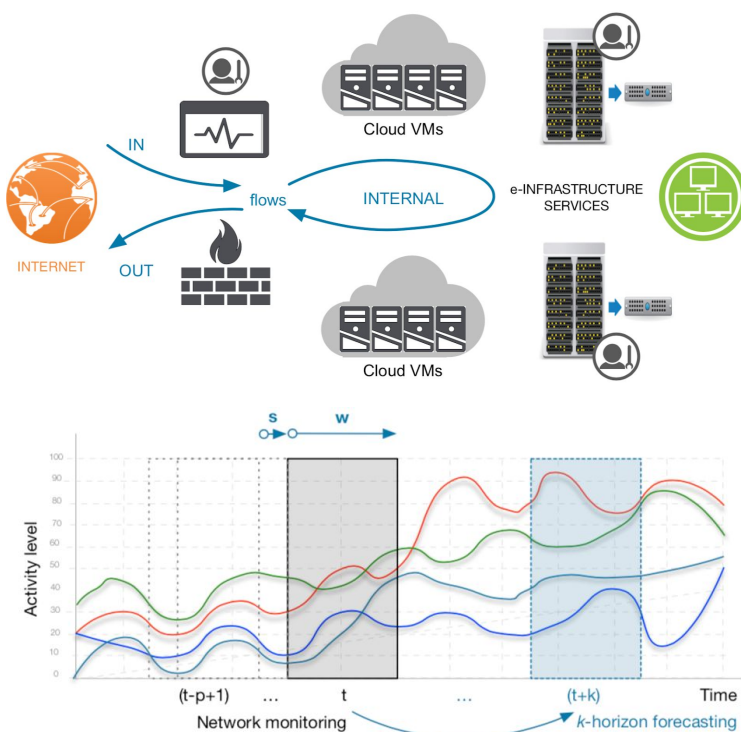# PROACTIVE NETWORK MONITORING

Intrusion Detection System functionality enhancement
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

Team

EU H2020 DEEP-HybridDataCloud
Use Case:
Network monitoring and security protection for computing infrastructure

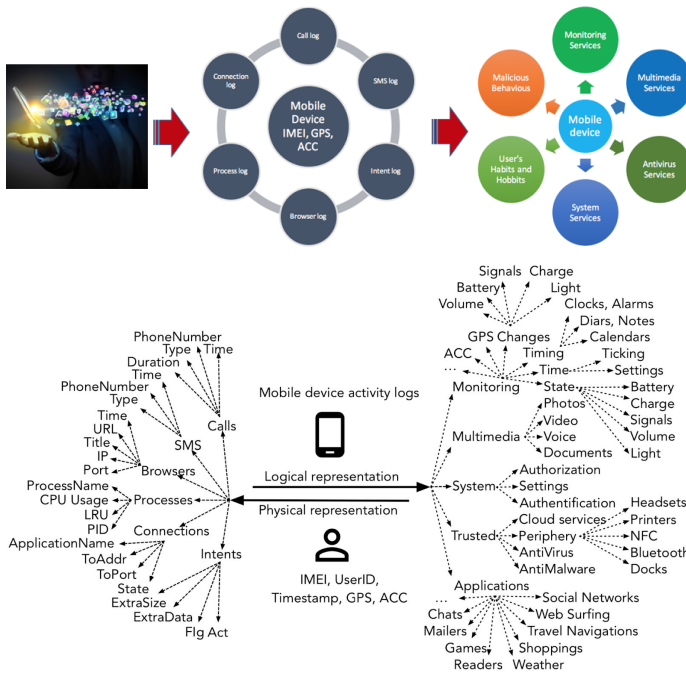**Giang Nguyen**, Štefan Dlugolinský, Viet Tran, and Ladislav Hluchý

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

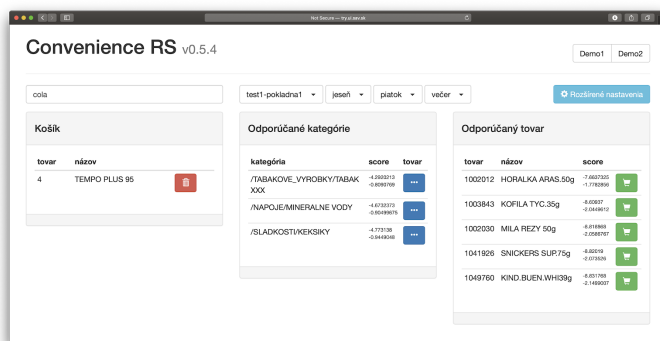**Giang Nguyen**, Štefan Dlugolinský, Viet Tran, and Ladislav Hluchý

Institute of Informatics
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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

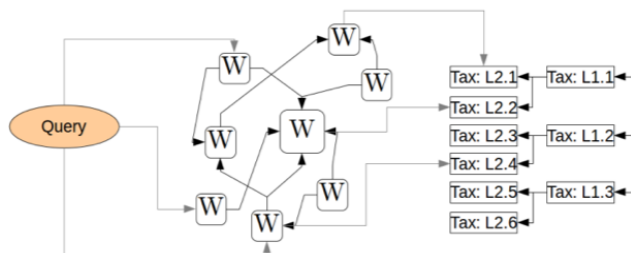**Štefan Dlugolinský**, Martin Šeleng, Giang Nguyen, and Ladislav Hluchý

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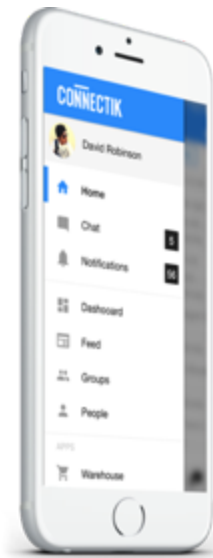
Institute of Informatics
Slovak Academy of Sciences
Dúbravská cesta 9
845 07 Bratislava

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

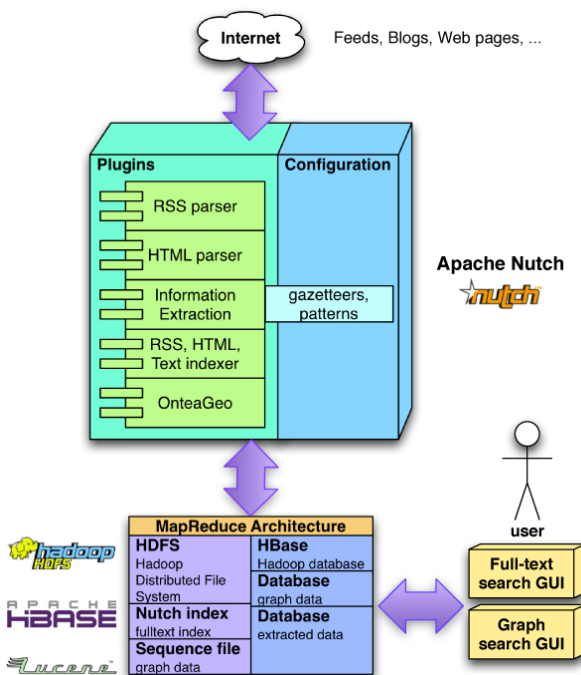**Martin Šeleng**, Štefan Dlugolinský, and Ladislav Hluchý

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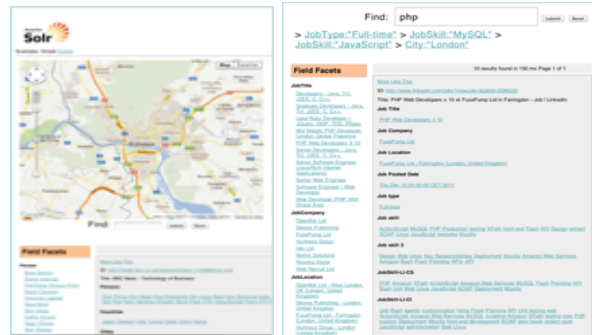845 07 Bratislava

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