

Data scientist with a strong machine learning and software engineering background. Winner of the KDD Cup in 2016.

EXPERIENCE

Adform

Senior Data Scientist

January 2015 - Present

Copenhagen, Denmark

Applied machine learning research for computational advertising.

(Machine learning, Statistics, Reinforcement learning, Graph theory, Time series forecasting, Anomaly detection, R, Python, Vertica, Hadoop, Hive)

- Currently working on an online learning framework using reinforcement learning
- Developed a cross-device user tracking model using supervised learning, graph cutting algorithms and modularity based community detection algorithms
- Significantly improved the supply forecasting model and pipeline used to predict the amount of traffic a publisher should expect in a certain period from users matching specific demographical segments, using time series forecasting techniques with complex and dynamic seasonalities
- Developed a new technique to improve the accuracy of the supply forecasting model using a sample based correlations model coupled with fast in-memory compressed bitsets to account for segments interactions and make it viable to answer queries in an online fashion
- Developed a model to optimally allocate impressions to guaranteed contracts, even in the presence of supply forecast errors, using constrained optimization, importance sampling and online bipartite matching algorithms
- Prototyped a real time bid landscape model to predict the price range an ad would fall in in a real time ad exchange market, using very memory-efficient recursive trie-based data structures and boosted decision trees
- Validated an existing ads viewability model, in terms of revenue gain/loss
- Worked on an allocation engine for display ads, meant to optimize yield for publishers by making all guaranteed contracts compete with rtb markets

Trustpilot

Software Engineer

September 2012 - December 2014

Copenhagen, Denmark

Worked in the Fraud Detection team, researched and developed models to detect fake reviews and fraudulent user behavior.

(Machine learning, Data mining, Natural Language Processing, R, Python, C#, MongoDB, MSSQL, RabbitMQ, Amazon SQS, AWS)

- Designed and implemented the classification engine to detect fraudulent user behaviour
- Developed a highly scalable review reporting pipeline to flag fake reviews and suspicious users in real-time
- Published a paper at the World Wide Web (WWW) conference in 2015 based on research done on innovative methods to detect opinion spammers and fake reviews
- Acted as an interim product manager for the Fraud Detection team and built the technical product roadmap
- Built backend functionality for various other services and features of the Trustpilot platform, such as B2B/B2C APIs, automatic review reporting pipeline, social graph based recommended reviews, integrations with 3rd-party services

Tekniska Verken

Software Engineer (Subcontracted by Foritec AB, Sweden)

August 2010 - August 2012

Linköping, Sweden

Built reporting software for automating the generation of emission reports for the Swedish environmental agency.

- Designed and implemented the fuel logistics and reporting software used to produce emission tax reports for the Swedish environmental authorities

- Developed software to improve data acquisition procedures from 3rd-party providers of industrial weighing systems and real-time sensor-based data

SVR Samhällsbyggarna

January 2009 - July 2010

Software Engineer (Subcontracted by Foritec AB, Sweden)

Stockholm, Sweden

Built software for medium sized Swedish labor organizations.

- Co-authored the backend management system for handling memberships, invoicing, conferences, online ads sales, job ads database and other events
- Developed the Content Management System for the organization website - own proprietary software, not based on existing 3rd party systems
- Developed community groups features for approx. 3500 members
- Adapted and integrated the SVR backend management system and CMS solution at the ASPECT organization, during February 2009 - May 2009 in Stockholm, Sweden

Söderenergi

August 2005 - December 2008

Software Engineer (Subcontracted by Foritec AB, Sweden)

Södertälje, Sweden

Developed anomaly detection models using neural networks and probabilistic inference in Bayesian networks to detect faulty sensors. Built reporting software for automating the generation of emission reports for the Swedish environmental agency.

- Co-authored, designed and implemented the fuel logistics and reporting software used by the energy plant to keep track of fuel consumption, chemical analyses and emission reports for state authorities
- Researched and developed prototypes using anomaly detection methods and neural networks to detect sensor failures in an industrial SCADA system
- Developed data acquisition middleware for SCADA type industrial real-time control systems and synchronization with industrial weighing systems
- Detected and automated time-consuming processes that required manual handling such as tracking supplier agreements, laboratory test results handling, fuel inventory/consumption estimation models, emission reports

PAPERS AND AWARDS

1st place award at the KDD Cup competition, 2016.

Predicting the future relevance of research institutions - The winning solution of the KDD Cup 2016. Vlad Sandulescu, Mihai Chiru. *The 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, 2016.

Detecting Singleton Review Spammers Using Semantic Similarity. Vlad Sandulescu, Martin Ester. *Proceedings of the 24th International Conference on World Wide Web (WWW) Companion*, 2015.

Efficient Execution of Parallel Applications in Grid with MPI Library. Felicia Ionescu, Mihai Chiru, Vlad Sandulescu, and Mihail Ionescu. *In 11th WSEAS International Conference on Mathematical Methods and Computational Techniques in Electrical Engineering*, 2009.

EDUCATION

Technical University of Denmark

June 2014

M.S. in Computer Science & Engineering

Copenhagen, Denmark

GPA: 3.71 (US scale) / 10.1 (Danish scale)

Thesis title: **Opinion Spam Detection Through Semantic Similarity.**

The thesis proposes novel methods to detect opinion spam of one-time reviewers using semantic similarity. It builds upon recent research models aimed at extracting product aspects from short texts.

Politehnica University of Bucharest

June 2008

B.S. in Computer Science

Bucharest, Romania

LANGUAGES

Fluent in English, beginner in Danish, native in Romanian