THE THIRD INTERNATIONAL SYMPOSIUM ON STATISTICAL LEARNING AND DATA SCIENCES (SLDS 2015*)

April 20-23, 2015
Royal Holloway, University of London, UK

Programme

Day 1 - Monday 20th April 2015

9:30 – 10:00 Registration

10:00 – 10:10 Welcome Address

10:10 – 11:10 Session 1: Feature Analysis
Chair: Henrik Boström

Feature Mapping through Maximization of the Atomic Interclass Distances
Savvas Karatsiolis and Christos Schizas

Adaptive Design of Experiments for Sobol Indices Estimation Based on Quadratic Metamodel
Evgeny Burnaev and Ivan Panin

Goldeneye++: A Closer Look into the Black Box
Andreas Henelius, Kai Puolamäki, Isak Karlsson, Jing Zhao, Lars Asker, Henrik Boström and Panagiotis Papapetrou

11:10 – 11:30 Coffee Break

11:30 – 12:10 Session 2: Gaussian Non-parametrics
Chair: Xiaohui Liu

Gaussian Process Regression for Large Structured Data Sets
Mikhail Belyaev, Evgeny Burnaev and Yermek Kapushev

Adaptive Design of Experiments Based on Gaussian Processes
Evgeny Burnaev and Maxim Panov

12:10 – 12:30 Poster Presentation Session

Feature Selection as an Average Risk Maximization Problem
Anatoly Michalsky

Distributions Contrasting Algorithm and Its Applications
Varvara V. Tsurko

Tensor Decompositions and Machine Learning
Ivan Oseledets

Optimisation of Adverts Allocation in Sponsored Search
Anna Sorokina

12:30 – 13:30 Lunch

13:30 – 14:50 CoPA Session (Part 1):
Conformal Prediction and Its Applications
Chair: Haris Papadopoulos

Model Selection Using Efficiency of Conformal Predictors
Ritvik Jaiswal and Vineeth Balasubramanian

Confidence Sets for Classification
Christophe Denis and Mohamed Hebiri

Conformal Clustering and Its Application to Botnet Traffic
Giovanni Cherubin, Ilia Nouretdinov, Alexander Gammerman, Roberto Jordaney, Zhi Wang, Davide Papini and Lorenzo Cavallaro

Interpretation of Conformal Prediction Classification Models
Ernst Ahlberg, Ola Spjuth and Lars Carlsson

14:50 – 15:00 Coffee Break

15:00 – 16:30 Keynote 1
Chair: Alex Gammerman

Intelligent Learning: Similarity Control and Knowledge Transfer
Vladimir Vapnik

16:30 – 17:00 Coffee Break

17:00 – 17:40 Commemorative Talks
Chair: Vladimir Vapnik

Some Applications of Data Analysis and Machine Learning by Alexey Chervonenkis
Anatoly I. Michalski

Life of Alexey Chervonenkis

Mikhail Chervonenkis

18:00 – 18:45 Concert (Chapel)

19:00 – 20:00 Welcome Reception

9:30 – 10:00 Registration

10:00 – 11:40 Session 3: Time Series and Evolving Systems
Chair: Plamen Angelov

Forests of Randomized Shapelet Trees
Isak Karlsson, Panagotis Papapetrou and Henrik Bostrom

Aggregation of Adaptive Forecasting Algorithms under Asymmetric Loss Function
Alexey Romanenko

Visualization and Analysis of Large Datasets by Beanplot PCA
Carlo Drago, Carlo Lauro and Germana Scepi

Recursive SVM Based on TEDA
Dmitry Kangin and Plamen Angelov

RDE with Forgetting: An Approximate Solution for Large Values of K with an Application to Fault Detection Problems
Clauber Bezerra, Bruno Costa, Luiz Affonso Guedes and Plamen Angelov

11:40 – 12:00 Coffee Break

12:00 – 13:00 Keynote 2
Chair: Volodya Vovk

Statistical Inference Problems and Their Rigorous Solution
Valdimir Vapnik

13:00 – 14:00 Lunch

14:00 – 15:40 Session 4: Statistical Learning Applications
Chair: Lazaros Iliadis

Sit-to-Stand Movement Recognition Using Kinect
Erik Acorn and Kostas Stathis

Additive Regularization of Topic Models for Topic Selection and Sparse Factorization
Konstantin Vorontsov, Anna Potapenko and Alexander Plavin

Social Web Based Anxiety Index's Predictive Information on S&P500 Revisited
Rapheal Olaniyan, Daniel Stamate and Doina Logofatu

Exploring the Link between Gene Expression and Protein Binding By Integrating Mrna Microarray and Chip-Seq Data
Mohsina Mahmuda Ferdous, Veronica Vinciotti, Xiaohui Liu and Paul Wilson

Evolving Smart URL Filter in a Zone-Based Policy Firewall for Detecting Algorithmically Generated Malicious Domains
Kostantinos Demertzis and Lazaros Iliadis

15:40 – 16:00 Coffee Break

16:00 – 17:40 CoPA Session (Part 2):
Conformal Prediction and Its Applications
Chair: Lars Carlsson

A Comparison of Three Implementations of Multi-Label Conformal Predictor
Huazhen Wang, Xin Liu, Ilia Nouretdinov and Zhiyuan Luo

Modifications to p-values of Conformal Predictors
Lars Carlsson, Ernst Ahlberg, Henrik Boström, Ulf Johansson and Henrik Linusson

Cross-Conformal Prediction with Ridge Regression
Harris Papadopoulos

Handling Small Calibration Sets in Mondrian Inductive Conformal Regressors
Ulf Johansson, Ernst Alberg, Henrik Boström, Lars Carlsson, Henrik Linusson and Cecilia Sönströd

Conformal Anomaly Detection of Trajectories with a Multi-Class Hierarchy
James Smith, Ilia Nouretdinov, Rachel Craddock, Charles Offer and Alexander Gammerman

19:30 Conference Dinner (Picture Gallery)

Day 3 - Wednesday 22nd April 2015

9:30 – 10:00 Registration

10:00 – 11:00 Keynote 3
Chair: Aleksander Bernstein

From Statistical to Causal Learning
Bernhard Schölkopf

11:00 – 11:20 Coffee Break

11:20 – 13:00 New Frontiers in Data Analysis for Nuclear Fusion Session
Chair: Jesús Vega

Automatic Classification of Confinement Regimes in Thermonuclear Plasmas
Giuseppe Rattá and Jesús Vega

How to Handle Error Bars in Symbolic Regression for Data Mining in Scientific Applications
Andrea Murari, Emmanuele Peluso, Michela Gelfusa, Michele Lungaroni and Pasqualino Gaudio

Applying Forecasting to Fusion Databases
Gonzalo Farias, Sebastian Dormido-Canto, Jesus Vega and Norman Diaz

Computationally Efficient Five-Class Image Classifier Based on Venn Predictors
Jesus Vega, Sebastián Dormido-Canto, Ignacio Pastor and M. Carmen Rodríguez

SOM and Feature Weights Based Method for Dimensionality Reduction in Large Gauss Linear Models
Fernando Pavón, Jesús Vega and Sebastián Dormido

13:00 – 14:00 Lunch

14:00 – 15:00 Geometric Data Analysis Session (Part 1)
Chair: Fionn Murtagh

Supporting Data Analytics for Smart Cities: An Overview of Data Models and Topology
Patrick E. Bradley

Assigning Objects to Classes of Euclidean Ascending Hierarchical Clustering
Brigitte Le Roux and Frederik Cassor

The Structure of Argument: Semantic Mapping of US Supreme Court Cases
Fionn Murtagh and Mohsen Farid

15:00 – 15:20 Coffee Break

15:20 – 16:40 Geometric Data Analysis Session (Part 2)
Chair: Fionn Murtagh

Lattice-Theoretic Tools in Qualitative Preference Learning
Miguel Couceiro and Tamas Waldhauser

Manifold Learning in Regression Tasks
Aleksander Bernstein, Aleksander Kuleshov and Yury Yanovich

Optimal Coding for Discrete Random Vector
Bernard Colin and Jules de Tibeiro

Random Projection towards the Baire Metric for High Dimensional Clustering
Pedro Contreras and Fionn Murtagh

10:00 – 12:00 **Informal Discussion**

12:00 – 12:20 **Closing Session**

Sponsors: