Dr. Ingrida Steponavičė

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Skilled professional with 10 years of experience in optimization, numerical methods and their applications to various industry fields. Proven ability to solve real-life industrial problems by means of mathematical modeling, data mining, machine learning and multi-criteria decision making, to develop and implement algorithms and analyze data. Passionate about science, with strong technical and interpersonal skills for working individually as well as in a team oriented environment. Areas of expertise include:

- operations research
- machine learning
- data mining
- mathematical programming
- numerical methods
- statistical analysis
- artificial intelligence
- evolutionary algorithms
- design of experiments

Professional experience

- **Institute of Transport Studies, Monash University** **Melbourne, Australia**
  Research fellow *2016–now*
  Hired for the project on network-theoretic analysis of urban transport systems. The project aims to develop and apply new methods based on graph theory to understand and model mobility patterns in cities.

- **School of Mathematical Sciences, Monash University** **Melbourne, Australia**
  Research fellow *2013–now*
  Recruited to work on the project *"Optimizing experimental design for robust product development: a case study for high-efficiency energy generation"*. The aim of the project is to propose an efficient way of generating optimal solutions of a costly black-box problem given a limited number of objective functions evaluations.
  Key contributions:
  - investigation of different machine learning techniques (SVM, PCA, random forest, clustering) and their suitability to the problem at hand;
  - design and implementation (in Matlab and R) of new algorithms;
  - design and conduct of experiments, data collection and analysis, results visualization;
  - presentations in conferences and meetings, several refereed publications.

- **Department of Mathematical Information Technology, University of Jyväskylä** **Jyväskylä, Finland**
  Post-doctoral researcher, Industrial Optimization Group *2011–2013*
  Hired to work on WP9 project (*Optimization Structures and Operation of Entire Production Systems*). The project aimed at developing a new model-based and optimizing design concept for material and information flows in production systems. While working on the project I got on-hand experience of how to deal with various challenges common to many real-life optimization problems.
  Key contributions:
  - solution process to find an optimal design of a paper mill;
  - algorithm implementation, results analysis and solution visualization;
  - consultations and presentations for industry partners;
  - writing publications and reports, participation in conferences and workshops.

- **Department of Industrial and Systems Engineering, University of Florida** **Gainesville, FL, USA**
  Research assistant, Center for Applied Optimization *2010*
  Involved in the project *"Applying Systems Engineering Concepts to Improve Efficiency, Patient Satisfaction, and Quality of Care in a Veterans Health Administration Medical Center"*.
  Key contributions:
  - data clean-up and preparation, their statistical analysis and visualization;
  - patients service process simulation.

Teaching experience

- **School of Mathematical Sciences, Monash University** — **Clayton, VIC, Australia**
  Co-instructor — *Semester 2, 2014*
  Course: Applied Mathematical Modelling (MTH3310).
- **Vilnius University Institute of Mathematics and Informatics** — **Vilnius, Lithuania**
  Instructor, LLP/ERASMUS Teacher Exchange visit — *September 24-28, 2012*
  Course: Multiobjective Optimization.
- **University of Jyväskylä** — **Jyväskylä, Finland**
  Tutor, The 21st Jyväskylä Summer School — *August 8-19, 2011*
  Course: Nonlinear Optimization: Advances and Applications; Instructor: prof. A. Forsgren.
- **Department of Industrial and Systems Engineering, University of Florida** — **Gainesville, FL, USA**
  Teaching assistant — *2008–2010*
  Courses: Simulation with Arena, Operations Research I, Web-DSS.
- **Faculty of Informatics, Vytautas Magnus University** — **Kaunas, Lithuania**
  Teaching assistant — *2005–2007*
  Courses: Mathematical Programming, Linear Programming, Theory of Algorithmic Complexity, Discrete Structures.

Education

- **Faculty of Informatics, Vytautas Magnus University** — **Kaunas, Lithuania**
  Ph.D. in Informatics — *2011*
  Thesis title: "Algorithms for Uniform Distribution of Solutions over the Pareto Set and their Applications in Risk Management."
- **Department of Industrial and Systems Engineering, University of Florida** — **Gainesville, FL, USA**
  M.S. in Industrial and Systems Engineering — *2010*
  Thesis Title: "C-GRASP Application to the Economic Dispatch Problem."
- **Department of Applied Informatics, Vytautas Magnus University** — **Kaunas, Lithuania**
  M.S. in Applied Informatics — *2005*
  Thesis Title: "Portfolio Optimization."
- **Faculty of Informatics, Vytautas Magnus University** — **Kaunas, Lithuania**
  B.S. in Informatics — *2003*

Certificates

- **University of California** — **San Diego on Coursera**
  Certificate of Graph Analytics for Big Data — *March 30, 2016*
- **University of California** — **San Diego on Coursera**
  Certificate of Machine Learning With Big Data — *March 9, 2016*
- **University of California** — **San Diego on Coursera**
  Certificate of Introduction to Big Data Analytics — *February 2, 2016*
- **University of California** — **San Diego on Coursera**
  Certificate of Hadoop Platform and Application Framework — *December 8, 2015*
- **University of California** — **San Diego on Coursera**
  Certificate of Introduction to Big Data — *November 5, 2015*
- **Informatics Summer School Modern Data Mining Technologies** — **Druskininkai, Lithuania**
  Certificate of "Modern Data Mining Technologies" — *September 9–15, 2007*
- **Faculty of Economics & Management, Vytautas Magnus University** — **Kaunas, Lithuania**
  Certificate of Business Administration — *2003*

Technical and Personal skills

- **Programming Languages:** C++, JAVA, Delphi, PHP, HTML.
- **Optimization:** CPLEX, GAMS.
- **Mathematics:** Matlab, R, Mathematica, Maple.
- **Data processing:** Hadoop, MapReduce, Spark, SQL, Hive, Pig, KNIME etc.
- **Office:** MS Word, MS Excel, MS PowerPoint, LaTex.
- **Languages:** Lithuanian (Mother tongue), English (Fluent), Russian (Proficient), French (Basic).
- **Other:** Good presentation and analytical skills, a team player, positive-minded, quick to pick up new skills, eager and ambitious to learn from others.

Interests and other activities

- I am a reviewer of the following professional journals: *Journal of Global Optimization*, *Optimization Letters*, *OR Spectrum*, *Computers & Operations Research*, *Optimization and Engineering*, *Environmental Modeling and Assessment*, *Energy Systems*, and *Computer-Aided Design*. This activity helps me to keep my knowledge up to date with new research and development directions in my field of expertise.
- I am a fitness competitor. I competed in a number of championships in Europe and Australia and I did achieved great results. My recent achievements include:
  - 5th place in Arnold Classic Australia IFBB Amateur (Melbourne, Australia, 2016)
  - 1st place in IFBB Australia Nationals & Olympia Amateur (Gold Coast, Australia, 2015)
  - 2nd place in IFBB Victorian Championships (Melbourne, Australia, 2015)
  - 6th place in IFBB Australia National Championships (Sydney, Australia, 2014)
  - 2nd place in IFBB Victorian Championships (Melbourne, Australia, 2014)
- Recently I discovered the pleasure of cooking and baking. It is so exciting to invent and reinvent new recipes... I am also passionate about food styling and photography.

References

1. Prof. Kate Smith-Miles
   School of Mathematical Sciences, Monash University, VIC 3800, Australia
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   phone: +61 3 9905 3170
2. Prof. Rob J Hyndman
   Department of Econometrics & Business Statistics, Monash University, VIC 3800, Australia
   email: Rob.Hyndman@monash.edu
   phone: +61 3 9905 5141