

Oksana Samko

Email: oksana.cv@samko.info

Homepage: <http://oksana.samko.info>

Education:

2003 - Present **PhD - School of Computer Science, Cardiff University, Cardiff, UK**

Thesis topic: "Low Dimension Hierarchical Subspace Modelling of High Dimensional Multi-Sensor Data".

My research is sponsored by the British MoD and its main aim is to build a system to automatically analyse and categorise data from any source (audio and video for example) by finding common data patterns. This system is also able to convert high dimensional data to a low dimensional format with the least possible data loss. In my work I use statistical analysis to study the initial high dimensional nonlinear data and when building dynamic models. My work also includes data classification and recognition as well as the synthesis of both, static images and video including sound. I implement most of my models in Matlab and I also plan to use C++ where the high performance is required.

While working on my PhD thesis I attended numerous conferences, published a paper and another two are in preparation. I also gave talks and poster presentations, wrote programs in Matlab and discussed various research problems with my colleagues.

1999-2000 **MSc - Rostov State University, Rostov-on-Don, Russia**

Completed the 5 year education program at the Department of Mathematics and Mechanics of the Rostov State University and received the Russian equivalent of the MSc degree.

During this fifth year I was working on my Diploma "Sound propagation of a monochromatic source in the half space with differential type boundary conditions", developing numeric algorithms and implementing them in Maple.

While doing my research I also took the Algorithm Theory, Parallel Processing and Algebraic Coding Theory courses. My exam results can be found at <http://oksana.samko.info/exams/>.

1995-1999 **BSc - Rostov State University, Rostov-on-Don, Russia**

BSc in Applied Mathematics and Computer Science.

Diploma topic: "Propagation of sound of an air source in a waveguide sheeted by thin ice". My diploma work has also included writing a Maple package to solve the corresponding numerical problems.

While studying for a BSc degree, I attended 37 courses, including Object-Oriented Programming, Theory of Probability and Mathematical Statistics, Analysis of Algorithms, Digital Signal Processing, Calculus, Geometry and Algebra, Mathematical Models in Natural Sciences, Functional Analysis, Theoretical Mechanics, Differential Equations, Discrete Mathematics and Numerical Methods.

Work experience:

June 2001 - June 2002 **System Engineer, Gendalf Corporation, Rostov-on-Don, Russia**

My responsibilities included post development, configuration and maintenance of the [1C accounting software](#). This also included work with the end users, gathering requirements, designing and implementing new custom packages. My main projects were

- Development of the automatic data migration/conversion system between "1C" and "[Savings Bank of the Russian Federation](#)" data formats (my article on this topic was published in the "Progressive accountant") magazine.
- Participation in the development of the software for smart card transactions based on 1C and "Petrol Plus" accounting systems for InterOil, subsidiary of [Yukos Inc.](#)

While working in Gendalf I passed several 1C exams and got certifications "1C-Professional" and "1C-Programmer".

**July 2000 - May 2001 Computer Engineer, IT department of the Russian Railways,
Rostov-on-Don, Russia**

My main duty was configuration and maintenance of the Business Information System (Analytic Information System for Monitoring and Prediction of Economy), based on SAS Access.
I also supervised IT courses for staff and participated in the development of the Russian Railways web sites.

Additional experience:

- Sep 2003 - July 2004** Assisted "Cathays Building Supplies" in Cardiff, UK with the EPoS software and accounting. I was an intermediary between the software developers and the EPoS users. Working as an EPoS software user myself I gave tasks to the developers to modify the software for the specific business needs.
- Aug 2002** Developed web site: gitetental.digiways.com
- Oct 2000** Wrote a booklet for the PC users course (guide to DOS, Windows and Microsoft Office).

Highlights:

- Solid experience in implementing mathematical models in Matlab and Maple.
- Experience in PHP, HTML, Latex and intermediate knowledge of Mathematica.
- Basic knowledge of C++, understanding of SQL.
- Basic understanding of accounting and experience in the development of accounting software.
- Research experience includes high dimensional nonlinear data modelling, dimensionality reduction, automatic hierarchical data representation, data and image recognition, reconstruction and classification.
- Teaching skills - while working in the Gendalf Corporation I was teaching accountants how to use the 1C accounting software. I was also teaching the "Cathays Building Supplies" staff how to use the EPoS and stock control software.
- Demonstration skills - while doing my PhD degree in the university, I gave several talks and poster presentations.
- While working on my PhD thesis I wrote a technical reports, published a paper and two more papers are in preparation.
- Experience working with the end users, gathering requirements and documenting functional requirements.

Languages:

- **English:** Fluent. I give seminar and conference talks, communicate with my colleagues, write articles and read literature in English.
- **Russian:** Native language.