

NIKOLAI V. SHOKHIREV

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SUMMARY

Researcher / Developer / Problem Solver with extensive experience in information technologies, software development and database programming; strong interdisciplinary skills in research and development, large-scale computation, data processing, simulation and modeling, innovation and inventive problem solving; Self-starter with ability to work both independently and in a cross-functional team environment.

PROFESSIONAL EXPERIENCE

Graham Capital Management, L.P. (*Global Alternative Investment Strategies*), Norwalk, CT. **2007-Present**

Quantitative Research Developer - Quantitative Financial Engineering Group.

- Algorithm and Software development, Data analysis and processing, Time series analysis, Statistics, Pattern identification, Data anomaly detection, Valuation algorithms, Trading framework development.
- Delphi Win32, Delphi for .Net, CodeGear RAD Studio 2007 - XE, Visual Studio 2005 -2010, C#, C++, TCP/IP, COM, ADO, MS SQL 2005 - 2008, Web services, XML, Ruby.

Environmental Systems Products Holdings Inc., Tucson, AZ.

2006-2007

Sr. Software Design Engineer - SAM (Smart Auto Management) Project.

- .Net development, System integration, Software-hardware integration
- Database design and development (SQL Server 2000/2005, TSQL, VB.Net)
- Web-based information management system design and development (ASP.Net, C#, IIS 5/6)
- Windows XP/2003/XP Embedded, .Net 1.1/2.0, Visual Studio 2003/2005, VSS, TFS, Visio

CONSULTING (Part-time)

2005-2006

- Web development – Database design and development, Development of Interactive ad generation and site administration system (Linux, Apache /2.x, PHP 4/5, Perl, Javascript, MySQL 4/5, SVN).

University of Arizona, Department of Chemistry, Tucson, AZ (Full time/Part time)

2005-2006

Scientist/Scientific Programmer. *Research, Algorithm and software development, Information support of Research* . (Windows, Linux, Delphi/Pascal, C/C++)

- Developed algorithms and software for data processing in biochemical research (Data acquisition, storage, analysis, integration, Statistical analysis, Regression, Multivariate and Principal component analysis, Pattern identification, Time series analysis).
- Electrochemical data processing, Optimization and fitting, Data transformation and mapping.
- Conducted research in Theoretical chemistry and Magnetic spectroscopy, performed Computer simulation, Dynamic stochastic and quantum modeling, Bioinformatics.

Ionatron, Inc., Tucson, AZ. - *Directed energy technology.*

2004-2004

Sr. Research Scientist – Laser Physics.

- Research in Laser-induced discharge processes, Model development, Large-scale computer simulation, Algorithm development, Numerical methods, PDE, Visualization (Windows XP, C++, FORTRAN, C++Builder, Mathematica, Matlab).

TCI Solutions, Inc., Tucson, AZ. *Software solutions for the retail industry*

1999-2004

Software Engineer II (Delphi). (Windows 9x/NT/2000, Delphi 5-7, VB, VBScript, JavaScript, MS VS.Net, C#, Java, Design, Profiling, Unit Testing, Versioning, SQL, XML, ASP, QTime, DUnit, StarTeam).

- Supported development of Large-scale database applications for stores and store chains supporting pricing, invoicing, receiving, inventory, transfers, authorization; Designed business data objects, developed GUI and reporting.

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- Designed and developed COM objects for data access in Wireless and Web subsystems.
- Managed code in multi-version environment with multi-databases support (MS SQL Server 7/2000, Oracle 8/9, Interbase, DB2).

Ideation Intl, Inc., Southfield, MI. *Innovation consulting, inventive problem solving.* **1998-1999**

Sr. Scientist/Analyst.

- Conducted and managed projects on innovation, failure prediction and elimination, assessment of existing intellectual property and evolution of technology, facilitated inventive problem solving brainstorming
- Enhanced the Inventive problem solving methodology (TRIZ) with simplified model approach, which contributed to accomplishment of complex technological projects
- Designed and implemented TRIZ software tools for hybridization of alternative technical systems (Delphi4, VB6, Paradox, and Access).

University of Arizona, Department of Chemistry, Tucson, AZ **1993-1997**

Scientist/Scientific Programmer

Computational chemistry, computer simulations and modeling, data processing (Windows, UNIX, C/C++, Delphi, Pascal, Mathematica).

- Developed novel methods for interpretation of spectroscopic experiments allowing correct extraction of geometry and electronic structure of bioinorganic complexes.
- Developed custom programs with unique functionality for processing measurement in magnetic spectroscopy and electrochemistry.
- Increased efficiency of computer simulation algorithms, in some cases more than tenfold.
- Conducted individual research and supported projects in two research groups.

Institute Of Chemical Kinetics & Combustion, Novosibirsk, Russia **1986-1993**

Sr. Scientist

Research, algorithm development and programming (Windows, IBM 360/370, CDC, PDP, FORTRAN, C, Pascal)

- Developed stochastic models successfully applied to research of diffusion-controlled kinetics, magnetic spectroscopy and spin chemistry.
- Created efficient numerical methods for quantum chemistry, kinetics and thermodynamics used in academic and industrial R&D.
- Elaborated analysis of accuracy, resolution and reliable reconstruction interval for indirect and remote measurements.
- Developed methods for reliable reconstruction of indirect measurements, which were effectively applied to MRI exploration of underground water in Siberian gas fields, chemistry, spectroscopy, and aerosol science.

SPECIAL TRAINING

Certificate of Completion, Microsoft Windows XP Embedded Training, Tucson, AZ

Certificate of Inventive Problem Solving Analyst, Courses on TRIZ, Ideation Inc., Southfield, MI

Certificate of Programmer, Institute for Advanced Methods of Management, Leningrad, Russia

EDUCATION

Ph.D., Physical and mathematical sciences, Russian Academy of Sciences, Novosibirsk, Russia,

M.Sc., Physics from the Novosibirsk State University, Novosibirsk, Russia,

PUBLICATIONS

Over 70 articles in peer-reviewed journals: http://www.shokhirev.com/nikolai/publ/all_refs.php

Professional highlights: <http://www.shokhirev.com/nikolai/highlights.html>