

# NIKOLAI V. SHOKHIREV

<http://www.shokhirev.com/nikolai/resume.html>

[n.shadr@gmail.com](mailto:n.shadr@gmail.com)

## SUMMARY

Programmer / Researcher / 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, Pattern identification, Statistical analysis, Portfolio pricing and Valuation algorithms, Trading system development.
- Delphi Win32, Delphi for .Net, CodeGear RAD Studio 2007, Visual Studio 2005, 2008, C#, C++, TCP/IP, COM, ADO, MS SQL 2005, Web services, XML, Ruby.

**ENVIRONMENTAL SYSTEMS PRODUCTS HOLDINGS Inc.**, Tucson, AZ. **2006-2007**

**Sr. Software Design Engineer** - *.Net development, Database design and development, Web-based information management system development* (Windows XP/2003/XP Embedded, .Net 1.1/2.0, Visual Studio 2003/2005, SQL Server 2000/2005, ASP.Net, C#, VB.Net, VSS, TFS, Visio, Crystal Reports, IIS 5/6)

- SAM (Smart Auto Management) Project.

**CONSULTING, CONTRACTS** (Part-time) **2004-2006**

*Custom software development, WEB development, Database development, Algorithm development* (Windows 2000/XP, Delphi 7/2006, C#, Linux, Apache 1.x/2.x, PHP 4/5, Perl, Python, Javascript, MySQL 4/5, SVN, SQLite 2/3).

**UNIVERSITY OF ARIZONA, Department of Chemistry**, Tucson, AZ (Full time/Part time) **2004-2006**

**Scientific Programmer.** *Algorithm and software development, Information support of R&D* (Windows, Delphi 6/7, C#, Linux, C/C++, Apache, PHP 4/5, Perl, MySQL 4/5, SQLite 2/3, SVN).

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

**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.
- 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).

Nikolai V. SHOKHIREV

**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

Skills matrix: <http://www.shokhirev.com/nikolai/skills.html>