

# Victor V. BAZAROV

41 Ledgewood Rd, Bedford, NH 03110  
E-mail: jobs@bazarov.com

Home: (603) 472-2605

Cell: (603) 714-5089

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## SUMMARY and OBJECTIVE

Software Engineer with more than fifteen years of professional experience designing and creating successful commercial software. Seeking a software engineering position, hands-on technical leadership of a medium- or large-scale project, that would provide the ability to utilize my skills and to share them with others in the area of system architecture, computer programming, numerical analysis.

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## TECHNICAL SKILLS

THEORY AND TECHNIQUES: OOD, OOP, Client/Server, N-tier, sockets, various methods of applied mechanics (FEA, FEM, BEM), mathematical modeling.

OPERATING SYSTEMS: Microsoft Windows XP, 2000, NT, 3.x, 95, 98, Linux, UNIX, MS-DOS, MacOS, RT-11, RSX11M.

PROGRAMMING LANGUAGES: C++, C, Java, Python, Assembler, Pascal, JavaScript, UNIX Shell Script, FORTRAN, PL/I, BASIC, SQL, Prolog.

DEVELOPMENT SYSTEMS: MS Visual Studio, Visual C++ (MFC, ATL, WTL, COM, ADO), Borland C++ (OWL), JBuilder, Intel C/C++ Compiler, Visual J++, Visual Basic, TurboPascal, GNU C/C++, Watcom C/C++, Microsoft FORTRAN, VTune performance tools, JProbe, BoundsChecker.

OTHER: HTML, XML, OpenGL, DirectX, IBM ViaVoice, SmartHeap, Xlib

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## EMPLOYMENT

**Exa Corporation**, Burlington, MA

February 2004 – present

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### *Senior Software Engineer*

**PowerCLAY:** Maintained and developed the product since it was acquired from a third party. Made numerous fixes and improvements to all parts of the product from mathematical subroutines, file I/O, to UI and complex geometrical algorithms. Ported code to SGI IRIX. Designed and specified the next version of this medium-scale modeling program for free form deformation of 3D meshes. Developed the code for simultaneous use on several operating systems using portable UI and geometry libraries. Used C, C++, shell programming, on Windows XP, Linux, Sun Solaris, HP/UX, SGI IRIX.

**SensAble Technologies, Inc.**, Woburn, MA

2002 – September 2003

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### *Senior Software Engineer*

**FreeForm:** Designed and implemented parts of a large-scale 3D modeling system based on volumetric representation of solids. Implemented 6D input from a haptic device with force feedback. As part of multi-person team developed various components of the product. Designed and implemented surface fitting and other geometry algorithms, GUI, I/O. Used C++ on Windows XP, 2000.

**Semio Corporation**, San Mateo, CA

2001 – 2002

***Contract Software Engineer***

Admin Module: Designed and implemented a medium-scale multi-tier client / server system using Java, C++, Python. As part of three-person team developed, coded, and debugged several key subsystems: Request and Event transport, Exception handling, Process interaction, GUI.

**International Microcomputer Software, Inc.**, Novato, CA

1993 - 2001

***Lead Software Engineer, Staff Software Engineer, Contract Programmer***

TurboCAD SDK: [Pre-release work] Documentation and coding.

**2001** – Assisted in completion of the TurboCAD SDK. Tested SDK code and example programs fixed code (C++, MFC), wrote sample code (VBA), as well as documenting and specification for future releases.

Design.NET: [prototype stage of the project] Architecture, implementation: Data structures, 3D Studio MAX plug-in.

**1999-2000** - In tandem with the lead developer designed and prototyped data structures for the client side and later participated in communicating the design and implementation ideology to the development team overseas. Began the work with the design of the database and the client interaction module (in a form of an ActiveX control embedded in a Web page). Designed and coded a 3D Studio MAX plug-in as one of the tools for 3D content creation and editing.

MasterClips Image Project leadership, kernel, back-end modules, search engine, UI, CGI, Server: Java applet, database access. Specification and implementation.

**1998** - Headed the release of the second version. Lead the group of four engineers. Together with them redesigned and rewrote the back end and some user interface elements due to significantly expanded set of requirements: solved scalability and portability issues.

**1997** - As part of the team created the first version. Implemented the back end and some of the user interface.

TurboSketch: Specification, implementation.

**1996** - Led development and release of this branch of the TurboCAD product line. Specified, designed, and implemented several wizard-like modules and made usability improvements to the UI (which were later incorporated into the main TurboCAD code). Integrated voice recognition functionality into UI.

TurboProject: Project leadership, specification, implementation.

**1996** – With the team of four engineers established design parameters and created development schedule for version 2.0 (with numerous improvements in functionality and usability). Designed and coded Microsoft Project file conversion filter. Provided communication between the marketing department and the developers, prepared information for technical writing.

TurboCAD: Design and implementation: programming language interpreter, data structures, UI modules.

**1994-96** - With other engineers, began, and successfully completed, a total rewrite of a TurboPascal codebase into C++ (Visual C++ with MFC). Major application areas: user interface modules and geometry routines.

**1994** - wrote a language interpreter for internal use.

**Institute of Control Sciences, Russian Academy of Science, Russia**

1992-1993

***Software Engineer***

Grafika-81-3D: Design and implementation of 2.5D CAM modules, approximation procedures. Customer education, product maintenance.

**1993** – Implemented parts of the project. Carried out installation of the product on client systems and taught short courses for the users on site.

**1992** – Designed and coded Computer-Aided Manufacturing (CAM) module for converting 3D geometry into commands for NCUs.

**UNICON Co, Russia**

1988-1992

***Contract Software Engineer, Staff Software Engineer***

MAK-III: Design and development, GUI, mathematical modeling, data processing.

**1990-1992** - Implemented a low-level screen and mouse interaction library, analytical part of the package, visualization of the results.

**1988-1990** - Designed, coded, and tested a specialized CAD package for rapid prototyping and analysis of large-span metal structures.

**Applied Mechanics Department, Moscow Railway Engineering Institute**

1986-1992

***Analyst Programmer, Engineer, Senior Engineer, Out-of-staff teacher***

Programs: Designed and implemented student lab exercises on numerical methods of elasticity theory, linear algebra.

Short courses: "Resistance of Materials", "Building Mechanics", "Numerical Methods in Structure Analysis and Simulation". Lab and problem solving.

**EDUCATION**

Post-graduate course: Moscow Railway Engineering Institute, Applied Mechanics Chair, 1990-1992

Graduate course: Moscow Railway Engineering Institute, Department of Industrial and Civil Engineering, 1981-1986

**DEGREES**

Diploma (BS and MS): Moscow Railway Engineering Institute, 1986. Specialization: "Building and Mechanical Constructions Engineering".

**OTHER LANGUAGES**

Russian (native speaker)

**REFERENCES**

Upon request