

**Profile:** Viktor Toth is a Hungarian-Canadian author and software developer with over 25 years of professional experience. First in European countries such as Hungary, Austria, Germany and the United Kingdom, later in North America, he worked on many software projects in the areas of scientific and business programming. His technical abilities and his communication skills are demonstrated by a variety of Windows, DOS, and UNIX applications, planning documents and studies, scientific papers, and several books that bear his name. Highlights from his professional career include the following:

- 2005- : Developed a precision orbit determination program and a ray tracing estimator of thermal emissions (C++, Windows and Linux) to study the orbits of Pioneer 10/11. Wrote code to interpret spacecraft telemetry records stored in obsolete binary formats. Co-authored several scientific papers on the Pioneer Anomaly and on gravitational physics.
- 2004- : Implemented a Web-based application (Oracle, Java, HTML and JavaScript) for NORTEL, tracking the company's real estate development projects. Manages and continues to maintain a similar application suite (MySQL, PHP, HTML, and JavaScript) for Canada Post.
- 2004- : Repaired and continues to maintain the tensor algebra packages of Maxima, the world's premier open-source computer algebra system, written in LISP and running on many operating systems.
- 2003: Wrote a C-language Linux driver for the Energizer line of low-cost uninterruptible power supplies.
- 2001- : Developed several Windows Mobile programs, including *Pocket Telnet* and *Windows CE Task Manager*. Assisted AMD with the development of Windows CE system components for a low-cost Internet device.
- 2000- : Established and continues to maintain [rskey.org](http://rskey.org), a virtual museum of programmable calculators.
- 1999- : Demonstrating advanced porting techniques, ported the world's first multi-user computer game (M.U.D., or Multi-User Dungeon) from BCPL and a 36-bit computer platform to a modern 32-bit architecture (Windows and Linux). Continues to host this game at <http://www.british-legends.com/>.
- 1998- : Developed, and continues to maintain, Industry Canada's Integrated Spectrum Observation Centre for Windows: in approximately 120,000 lines of C++ code and accompanied by a 300+ page training and reference manual, this client-server suite provides remote access to radio frequency instruments such as spectrum analyzers and test receivers.
- 1995-1998: Developed NORTEC H.E.L.P. (C++, Windows, Microsoft Access), a product database browser and engineering estimator for use by agents of NORTEC, a manufacturer of building humidification equipment.
- 1994-1999: Wrote several books published by SAMS Publishing, including *Visual C++ 5 Unleashed*, and *Linux: A Network Solution for your Office*.
- 1994-1996: Developed a bar code printer application (C/C++, macros in Microsoft Word, WordPerfect, and AMI Pro/Lotus Word Pro) for Canada Post. Developed an experimental application analyzing the topology of letter carrier routes and coloring route maps.
- 1993-1996: For Bell Canada, developed an application (C/UNIX) to remotely test telephone switching systems.
- 1987-1994: Co-authored the Canadian Patent Office's \$65 million Automation Master Plan. Assisted in the development of the subsequent Request for Proposal. Assisted the consulting company, RES Inc., with the development of business opportunities with the patent offices of China, Hungary, Mexico, and Taiwan.
- 1986-1987: At the Vienna University Hospital, ported a statistical analysis package from BASIC to SPSS/PC.
- 1986: Wrote his second Hungarian language book, a professional reference for programmers of the Commodore-16 home computer.
- 1984-1985: Developed a statistical analysis package (BASIC) used in agricultural research.
- 1982-1986: As a member of a Hungarian team of computer game programmers, developed several computer games, including the first aircraft simulation game for the Commodore-64 (in assembly language.)
- 1980-1982: Working for Hungary's civil aviation authority, developed aircraft simulation code (FORTRAN, Simula-67) to estimate the safe take-off distance of TU-154 commercial aircraft at Budapest airport.
- 1979-1980: Wrote the first Hungarian language book on *Rubik's Cube*.

## Development Tools and System Management Experience:

- Languages:** ADA, ALGOL, BASIC (Visual BASIC), C, C++ (Visual C++, GNU C++), C#, COBOL, FORTRAN, J#, Java, JavaScript, LEX, LISP, PASCAL, Perl, PHP, PL-1, shell languages, SIMULA-67, SQL, YACC
- Assemblers:** CDC-3300; DEC PDP-11; Intel 8080, 8088, 80x86/87 family; Motorola 6501, 6800, 680x0; PIC family of microcontrollers; Zilog Z80, Z8000
- Libraries, formats, protocols:** ActiveX, ATL, DirectX, GPIB/Ni-488, GPS, GSM, HTML, HTTP, JPEG, MFC, Microsoft Exchange, MPEG, OpenGL, Postscript, RS-232, SMTP, STL, TCP/IP, USB, XML
- Development environments:** CyanIDE, InstallShield, KDevelop, Microsoft Visual Studio, MPLAB IDE, Oracle JDeveloper, Windows CE Platform Builder
- Operating systems:** CDC-Master, DR-DOS, Linux, MS-DOS, OS/2, QNX, RSTS-E, RSX, RT-11, UNIX, VMS, Windows 3.1/95/98/ME/NT/2000/XP/2003/VISTA (workstation and server), Windows “Longhorn”
- Database systems:** Microsoft SQL Server, MySQL, Oracle, PostgreSQL, Sybase
- System management:** Apache Web server, FTP/telnet/SSH, Linux, Microsoft Exchange Server, Microsoft Internet Information Server, MySQL, Oracle (database and Application Server), Sendmail, VMware
- Graphical environments:** DRI-GEM, Microsoft Windows, OSF-Motif, X
- Computer architectures:** CDC-3300, Cyan eCOG1 microcontroller, DEC PDP-11 and VAX, HP Apollo, IBM PC, PIC microcontrollers, SUN
- Macro languages:** AMI Pro for Windows, dBase/Clipper, MDBS/GURU, Microsoft Access, Microsoft FoxPro, Microsoft Excel, Microsoft Outlook, Microsoft Word, Microstation (MDL and MicroCSL), PROCODM, SPSS/PC, WordPerfect for Windows

## Application Program Skills:

- Database:** dBase, Microsoft Access, Microsoft FoxPro, OpenOffice Base
- Graphics:** CorelDraw!, OpenOffice Draw, VISIO
- Presentation Graphics:** Harvard Graphics, Microsoft Powerpoint, OpenOffice Impress
- Project Management:** Harvard Total Project Manager, Microsoft Project
- Spreadsheets:** Lotus-123, Microsoft Excel, OpenOffice Calc
- Word Processors:** AMI Pro, Microsoft Word, OpenOffice Writer, WordPerfect
- CAD:** AutoCAD, Microstation, Protel

## Education:

Budapest Technical University (Electronics Engineering)

## Books:

*The Magic Cube* (TIT Budapest, 1980)  
*The Commodore 16 Internal Architecture* (Novotrade Budapest, 1986)  
*Windows 95 Programming Unleashed* (SAMS Publishing, 1995)  
*Windows NT Workstation 4 Unleashed* (SAMS Publishing 1996)  
*Visual C++ 4 Unleashed* (SAMS Publishing, 1996)  
*Visual C++ 5 Unleashed* (SAMS Publishing, 1998)  
*Linux: A Network Solution for your Office* (SAMS Publishing, 1999)

## Publications:

**Viktor T. Toth** and Slava G. Turyshev, “Thermal recoil force, telemetry, and the Pioneer anomaly”, Phys. Rev. D. 79, 043011 (2009)  
 J. W. Moffat and **V. T. Toth**, “Modified gravity and the origin of inertia”, Monthly Notices of the Royal Astronomical Society Letters, 26 Feb 2009  
 J. W. Moffat and **V. T. Toth**, “Testing modified gravity with globular cluster velocity dispersions”, The Astrophysical Journal **680** 1158, 2008.  
**Viktor T. Toth**, Slava G. Turyshev, “Pioneer Anomaly: Evaluating Newly Recovered Data”, invited talk at the “III Mexican Meeting on Mathematical and Experimental Physics,” AIP Conf. Proc. 977, 264-283 (2008).  
**Viktor T. Toth**, Slava G. Turyshev, “The Pioneer Anomaly: seeking an explanation in newly recovered data” Can. J. Phys. 84: 1063-1087 (2006).  
 Slava G. Turyshev, **Viktor T. Toth**, et al, “The Study of the Pioneer Anomaly: New Data and Objectives for New Investigation” (IJMPD, 2006)  
**Viktor T. Toth**, “Tensor manipulation in GPL Maxima”, (cs.SC/0503073)

## Languages:

English, Hungarian, some knowledge of French, German, and Russian

## Personal:

Born in 1963; Married