VIKTOR T. TOTH

INFORMATION TECHNOLOGY PROFESSIONAL
THEORETICAL PHYSICIST

+1 (613)789-0510
vttoth@vttoth.com
Ottawa, ON CANADA
https://vttoth.com/

PROFESSIONAL OVERVIEW

I have extensive experience as a software engineer, system architect and management consultant. I worked for a variety of prominent clients including the Government of Canada, Bell Canada, or Carleton University. I published several books, in particular on the Visual C++ development system. As an independent scientist, I published approximately 100 research papers to date and played a prominent role in NASA-led research projects, working with colleagues from NASA JPL, the Perimeter Institute, and other notable institutions.

WORK EXPERIENCE (SELECT HIGHLIGHTS)

Consultant/system architect

- I was a lead author of the $65M Automation Master Plan of the Canadian Patent Office.
- I coauthored a study for the redevelopment of the Financial Institutions File of the Canadian Payments Association.
- I worked with Abu Dhabi traffic police, planning a Smart Traffic Center.

Software engineer/developer

- For Industry Canada I developed, and maintained for 20 years, the Integrated Spectrum Observation Centre software suite (~120,000 C++ lines of code.)
- I developed a comprehensive product catalog and planning application for NORTEC, a manufacturer of large humidification systems.
- I worked with Best Theratronics, helping to develop both Windows-based UI code and QNX-based driver code for radiological medical devices.
- I developed ASERT, an application to assist Bell Canada to configure and test digital cross-connects.
- I am one of the volunteer developers of Maxima, the foremost (and oldest) open-source computer algebra system, used worldwide.
- I continue to maintain and run Multi-User Dungeon (MUD), the oldest “virtual world” in existence, using code I ported from DECSystem-10 BCPL and machine language to C++ to run on Windows or Linux.
- I developed a comprehensive front-end for LLMs including GPT, Claude and Grok, tailored for scientific use with Google and Maxima integration.

Theoretical physicist

- Collaborating with NASA’s Jet Propulsion Laboratory (JPL), I played a key role in resolving the famed Pioneer Anomaly, the anomalous acceleration of Pioneer-10 and 11, the earliest spacecraft to exit the inner solar system.
- Under JPL leadership, I took part in the development of the concept of the Solar Gravitational Lens, a NASA Innovative Advanced Concept research project to use the bending of light by the Sun’s gravity to study distant worlds.
- I worked with John Moffat from the Perimeter Institute on his STVG modified theory of gravity and his finite quantum field theory.

SKILLS

- Software development
- Information technology
- Symbolic AI
- Machine learning
- Management consulting
- Theoretical physics

LANGUAGES

- English
- Hungarian
- Working knowledge of French, German and Russian

BOOKS

- *Rubik’s Cube* (1980, in Hungarian)
- *The Commodore-16* (1986, in Hungarian)
- *Visual C++ Unleashed* (1996, several editions and translations)
- *Linux: A Network Solution for your Office* (1999)

PERSONAL

I was born in Budapest, Hungary. I studied electrical engineering at Budapest University of Technology and Economics. I am a resident of Ottawa, Canada. I am a dual (Canadian-Hungarian) citizen. Married (no children.)