

## RESUME

**Geoffrey Park, B.Sc., B.Eng.,  
versatile programmer, and software engineer.**

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Toronto Ontario  
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### EDUCATION

B.Eng., 1980, Agricultural Engineering, T.U.N.S., Halifax.  
B.Sc., 1977, Biology, Dalhousie University, Halifax.

### PROGRAMMING LANGUAGES

C, C++, Java, SmallTalk, Pascal, FORTRAN, APL, COBOL, Forth, Basic.  
Assembly languages for Intel 80x86 including Pentium MMX and Katmai,  
680XX, 6809, 6502, 8080, z80.

### OPERATING SYSTEMS

**UNIX:** Xenix, SCO, System III, V, and BSD 4.2, Linux. Over 10 years  
experience, scientific and graphics applications, work cell control software.  
**OS/2:** Five years experience. Multimedia application development, device driver  
development, Presentation Manager GUI development.  
**MS-Windows:** Seven years, multimedia application development.  
**VMS:** Five years experience, Fortran, Pascal, and C development.  
**Windows NT:** Four years, various projects.

### GRAPHICS HARDWARE/LIBRARIES

**PC SVGA, accelerated SVGA:** Ten years, various projects, including MS-  
Windows and OS/2 (DIVE) direct-draw techniques.  
**Matrox Illuminator Pro:** (high end video capture/effects board) 1+ years  
developing automated advertising systems and channel guide for the cable industry.  
**Silicon Graphics Iris:** Three years, developing scientific imaging software.  
**Amiga:** Four years part-time, developing image processing application.  
**X-Windows:** Currently developing a shareware VR application for Linux, using  
X-lib.

## EMPLOYMENT

### **MGI Software 10/97-present**

**Senior Software Engineer** with **MGI Software Inc.** a publicly traded company which leads the industry in consumer digital photography and digital video products. As a key member of the VideoWave team I have contributed to the effort which has made VideoWave the leading consumer video editing package.

#### Projects undertaken at MGI include:

- \* A real-time Audio Toolkit for mixing, equalization and audio special effects based on optimized floating point fast fourier transform (FFT) based digital signal processing (DSP) techniques.
- \* A real-time Text Overlay Generator for overlaying and animating anti-aliased text with shadow, edge, and color effects, on digital video.

#### Skills acquired at MGI include:

- \* Much of my work at MGI involved designing graphs and coding filters for use with Microsoft's Direct Show technology.

### **ISI 10/92-10/97**

**Software Engineer** with Interactive Software Inc., Markham, a supplier of automated advertising systems to the cable television industry. Our group of products provide an integrated system for efficiently creating, scheduling, and playing video advertisements. My work has involved the automated playback systems.

#### Projects undertaken at ISI include:

- \* Design and implementation of *NetBytes*, an HTML browser/player for displaying text and graphics on television using the popular Internet file format. NetBytes renders HyperText Markup Language 3.0 text, tags, and images, using ISI's proprietary anti-aliased fonts, and scrolls the material at an easy reading pace, pausing at significant markers; images, paragraph heads, etc.
- \* Design and implementation of *OnCable*, a combined advertising player and program guide. This product makes use of the special video processing hardware of the Matrox Illuminator Pro to create a variety of spectacular transition effects. The scrolling grid-like

program guide can be configured as to grid size, layout, fonts and colours (per show category), scroll timing and direction, clock display (French/English, short long etc.) and other parameters. OnCable is currently ISI's fastest selling product.

- \* A proprietary compressed anti-aliased raster font format, and a program to generate these fonts by scaling any specified Adobe type 1 font.
- \* Development of an interrupt driven, DMA based, OS/2 device driver with fade controller for Media Vision digital audio boards.
- \* Various interface libraries, and/or drivers for multimedia devices, including VTRs, digital video (MPEG) players, a weather station, audio switch, others.

**PROMIS  
SYSTEMS  
10/88 -10/92**

references:

Richard Fogel  
phone 762-4977 h.

**Senior Software Analyst** with Promis Systems Ltd., Toronto, a developer and vendor of Computer Integrated Manufacturing (CIM) software for the semiconductor industry. PROMIS' main product is a CIM application for batch manufacturing processes, consisting of over 2,000,000 lines of VAX-VMS Fortran. Unix, AIX, QNX, and Macintosh operating systems were also used for subsystems and special projects.

At PROMIS my duties included requirements specification, design specification, test plan preparation, project management, coding, and software maintenance. During my stay at Promis I was able to apply my skills in many different areas, including: Lot tracking system analysis and design (including SmallTalk prototyping), Production reporting, Statistical Process Control (including interactive graphical display, Postscript printing), and a work cell automation project which involved code for DEC Unix, QNX, VMS, and Ingres SQL. I worked on teams that varied from two to ten programmer/analysts. I acquired valuable experience as team leader and as project manager on several projects.

**SCIEX Ltd.  
09/87-08/88**

references:

Gary Jolivet  
ph. (905) 940-6840

**Intermediate Programmer** with SCIEX Ltd., Toronto, a manufacturer of analytical instruments based on mass spectrometer technology. Duties included design, specification, and coding of a key module in the control software for a new model of Inductively Coupled Plasma Mass Spectrometer. Most of my work at SCIEX involved user-interface design and implementation. I was actively

involved in meetings in which the details of "Look and Feel" of SCIEX software products and the methodology and tools used in their development were discussed.

The development environment at SCIEX was SCO XENIX, with a SUN file server for backup and revision control (using SCCS).

**OYSTERNOISE  
REDUCTION Ltd.**  
04/85 - 08/87

Scientific programmer, UNIX system administrator, Oyster Noise Reduction Ltd., Toronto. Duties included writing and maintaining system wide utilities and scientific programs, in C, for a network of four UNIX machines. Oyster's computer equipment comprised two PDP-11's running RSX-11M+, a Silicon Graphics 3400 Turbo workstation, and a custom computer, the General Development Tool or GDT, built by Syntronics Ltd. of Toronto. The GDT consisted of up to five 68010, Q-bus, based computers each supporting one or more special array processors (Mercury Zip 3216 and 3232 cards), and linked to each of the other computers by custom high-speed inter-processor communication (IPPC) cards. Oyster was an investment-funded research company, whose mandate was to investigate methods of acoustic noise reduction by active digital control methods.

Projects undertaken at Oyster:

- \* An integrated system of programs and filters for modelling sound fields in free air.
- \* A contouring program using cubic splines to display cross-sections of sound pressure fields.
- \* A 3-D contouring program to allow interactive exploration, using the Iris workstation, of complex equal pressure surfaces in a modelled sound field.
- \* A general purpose interactive 3-D display program for wire frame objects, using the Iris workstation.
- \* A scientific plotting package and network based printer/plotter spooling system.
- \* An Hewlett Packard Graphic Language (HPGL) interpreter to display graph data destined for an HP-plotter on a bit mapped screen.

**Self-Employed  
Consultant**  
1984-1986

During this period I was awarded DSS contracts with the **Defence Research Establishment Atlantic** in Halifax, and **Energy Mines and Resources** (PMRL CanMet) in Ottawa, in the amounts of \$25000 and \$8500 respectively. I also provided programming and engineering services to several other customers including the department of metallurgical engineering at T.U.N.S. and the set of the science fiction movie "DefCon-4" (Now available at finer video outlets).

The D.R.E.A. contract involved development of data base management and sample control software for the Canadian Navy's Spectrometric Oil Analysis Program (S.O.A.P.) which determines metals contents of oil samples from critical lubricated machines throughout the fleet in order to monitor wear and optimise preventative maintenance.

The E.M.R. contract involved the writing of a detailed maintenance manual and guide to software modification for the Corrosion Erosion Test Facility built at CES.

**T.U.N.S., Halifax  
engineer,**  
1982-1984  
Halifax.

**Scientific programmer, electronic and mechanical design**

Centre for Energy Studies, Technical University of Nova Scotia,

Duties included maintenance of laboratory analytical instruments, and mechanical, electronic, and software design.

Projects at CES included:

- \* Design and implementation of a real-time, distributed, data-acquisition system based on an S-100 bus computer, Intersil REM-DAC remote modules. Software in FORTRAN allowed user programmable configuration of a chain of serially connected REM-DAC units as well as several Fluke Data-Loggers.
- \* Design, construction, and testing of the control and measurement electronics and PC-based software and design drafting of mechanical components for a custom Corrosion-Erosion Test

Facility, built under a \$100,000 contract with Energy Mines and Resources, Physical Metallurgy Research Labs, in Ottawa.

**T.U.N.S., Halifax**     **Research and teaching assistant**, while pursuing graduate studies  
1980-1982                    at the Technical University of Nova Scotia. Wrote Basic and 6502  
assembler programs for a microprocessor based milk yield  
monitoring system for dairy farms, under development by a joint  
venture of SIEMAC Ltd of Halifax and the Agricultural  
Engineering Dept at T.U.N.S.

## SELF INSTRUCTION

Since choosing, some years ago, to make my career in software development, I have embarked on an aggressive program of self-education and professional development: I read numerous technical journals, and spend several hundred dollars every year on textbooks. I have purchased thousands of dollars worth of compilers, interpreters, source libraries, and development software for my PC, Macintosh, and Amiga computers, solely for instructional purposes. In my studies, I emphasise computer graphics, languages, and software development methodologies.

Some projects undertaken on my own initiative:

Software:     **EasyReader:** a MS-Windows based teleprompting program. **EasyReader** loads text files and smooth scrolls them using very-large fonts, at a speed controlled by mouse, joystick, keyboard, or a special four button controller box. Text can be displayed in mirror image for use in reflective-glass teleprompting apparatus. A blinking +/- indicator indicates whether the reader must speed up or slow down to meet their specified time limit.

**Virtualizer:** a Windows-NT program to explore machine vision techniques, with the aim of scanning natural objects and scenes into 3-D models, using just video images: i.e. without the aid of lasers, special marks, or human labor. Some success has been achieved, though **Virtualizer** is not yet ready for prime time.

**Image Processing** for the Amiga. Over the last several years, I have been developing, in my spare time, a sophisticated image processing package for the Commodore Amiga. The package uses many of the features of the Amiga's windowing, multitasking, graphical user interface.

Algorithms implemented for this project include linear interpolative resampling, colour palette optimisation, and error diffusion dithering. Due to the recent demise of CBM U.S.A, I am currently porting portions of this package to Windows 3.1, NT, and X Windows on Linux.

**Hardware:** **NTSC video** colour decoding circuit. I built this project, based on the Motorola TDA 3330 TV Colour Processor IC, so that I could digitise colour video directly from a VCR or CamCorder using my Amiga and Digiview monochrome digitizer.

**AmiWare Thermometer.** In partnership with AmiWare, a vendor of peripherals for the Commodore Amiga, I designed a simple, two channel temperature recording interface using diode probes. The product is sold as a kit to hobbyists, and includes a sophisticated graphical user interface, and chart recorder simulator software on disk, as well as a PC board and all parts.

### **Hobbies and interests:**

For relaxation, I enjoy sailing, reading, playing flute and guitar, and composing electronic music.