Jui-Y uan Fred Hsu

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RESEARCHES/ SPECIAL ROJECTS

SCRAMO - A Model for MIDI-Choreographed Animation Fall 94
- Designed a formal model and implemented it as software for animators
- 6,600 lines of C++ code for X-Window on SGI Indigo connected to Roland Synthesizer

Data Structure Overhaul for VPLA (Visual Programming Language for Animation) Fall 94
- Replaced the entire data infrastructure of VPLA application with OO implementation
- 6,700 lines of C++ code (as of Dec), on SGI Indigo.

PHIGS++, an Object-Oriented Replacement for PHIGS Spring 94

Part 1: PHIGS++ library (3D objects, transformations, rendering methods...)

Part 2: Interactive 3D Drawing/Rendering program demonstrating PHIGS++
- 13,800 lines of C++ (g++) code under X-Window environment
- Xlib, Xt, Motif libraries were used

Simulation of Failure Location in Real-Time Systems Spring 93

An interactive simulation tool for failure location strategies
- 9,000 lines of Borland C++ code for MS-Windows.
- Served as project leader for a 5-person team
- 2nd prize winner, Watson School Decennial Open House, Display Contest 1993

Matrix for MS-Windows Jun 92 - May 93

A professional MS-Windows application for matrix manipulation
- 13,700 lines of Borland C++ code for MS-Windows. Worked with Richard Hsu.
- WYSIWYG matrix equation editing/solving. Matrix properties and graph drawing. Equations were arranged into lines, pages and documents. Sound effects.
- Honorable Mention: Watson School Decennial Open House Display Contest 1993
- Research Grant: Binghamton Undergraduate Research Funding, Nov 1992

Generating 3D Polyhedral Solid from 2D Polygonal Views Jan 93 - May 93

A package that re-constructed 3D objects given 2D views Jun 90 - Dec 90
- 6,000 lines of code in Microsoft C for MS-DOS
- Gold medal, senior level, Greater Metropolitan of New York Math Fair 1991

NOTES

Speak/read/write fluently in English, Spanish, Chinese (Mandarin) and Taiwanese

Member of SUNY-Binghamton Symphony Orchestra, 1992 - cello player

Dickinson Darkroom Manager, Binghamton University, 1993.

Fish Lover (in terms of keeping them happy in my tanks)

US Permanent resident

	LANGUAGE	**OS**	**OTHERS**	**FIELDS**
EXPERT IN	C++, C 80x86 dBase BASIC Pascal	UNIX (HPUX, SunOS, IRIX,, AIX, Ultrix) MS-Windows MS-DOS	Windows 3.1/NT MFC X-Window Borland OWL Motif Toolkit	Software Engineering OO Methodology Algorithm Digital Design Graphics
KNOWLEDGEABLE	6502 LISP Modula-2	VM/CMS VM/ESA	OpenGL/Inventor PHIGS JPEG/MPEG	Electronics / Robotics Parallel Systems Multimedia
INTERMEDIATE	Prolog APL	VAX/VMS	Athena toolkit ATM	Mechanics Parallel Systems

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OBJECTIVE

Looking for a **software** position where I will be responsible for a **challenging** project.

EDUCATION

Cornell University, College of Engineering, Ithaca, New York
Master of Engineering in Computer Science, May 1995
GPA: 4.11/4.0

Binghamton University, Watson School of Engineering, Binghamton, New York
Bachelor of Science in Computer Science, with high honor, May 1994
Finished 4-year program in 3 years with 4 graduate-level courses
Overall GPA: 3.96/4.0 Major GPA: 3.99/4.0

WORK EXPERIENCE

Software Engineer. Mass. Language Lab, HP. Chelmsford, MA Jun 95 - Present
- Add C++ debugging support to DDE (Distributed-Debugging Environment)
- Make changes to gradualy convert DDE from a C program to C++.
- Design core debugger data structure in C++ (symbol table, watchpoints, etc)
- C/C++ code on HPUX 10.0 using ClearCase as configuration manager.

Software Engineer. Weekend project at home Nov 95 - Present
- Design and implement a CAD program for 3D virtual world modeling.
- Visual C++ 4.0 on Windows NT using SourceSafe as CM.
- Use OpenGL and MFC (Microsoft Foundation Classes)

Student Programmer. Lawrence Berkeley Laboratory, Berkeley, CA Summer 94
- Redesigned and rewrote the Physical Volume Repository (PVR) module of UniTree hierarchical file system (disk and tape management)
- PVR managed tape jukeboxes and interacted with other UniTree modules
- 5,500 lines of C code on Unix, with Object-Oriented methodology.

Software Engineer. DVP Inc., Rockville, Maryland Summer 93
- Designed and implemented a package for Computer-Aided Instrument Design
- Wrote software specifications/definitions, designed CAID system structure, and coded front-end user interface modules.
- 13,200 lines of Borland C++ code (user-interface modules only)
- Program written for MS-Windows using Object Windows and Object Graphics

Course Assistant. CS244 C Programming, Binghamton University, NY Spring 93
- Graded projects and exams. Tutored students during office hours

Computer Technician. SIREX Inc., Whitestone, NY Summer 92
- Built and repaired IBM personal computers

Computer Teacher. Summer School, NY Tai-An Church, Flushing, NY Summer 91
- Designed course materials. Taught MS-DOS, BASIC, WordPerfect and typing.

Programmer/Translator. CIKA Electronica S.R.L., Bs.As., Argentina Summer 89
- Designed dBase programs for payroll processing and stock management
- Translated electronic component data sheets (Spanish - Chinese)

Computer Teacher. Sin-Heng Institute, Buenos Aires, Argentina Jan 89 - Dec 89
- Designed course materials. Taught dBase, Lotus, DOS and BASIC

PUBLICATIONS

"**A Visual Simulation Tool for Design for Diagnosability of Dependable Systems**"
- Proceedings of the ISSAT International Conference on Reliability and Quality in Design, Seattle, March 1994. Co-authored with Chang, Hsu, et al.