Patrick Stein

(formerly Patrick Fleckenstein)

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Publications

LUT Filters for Quantized Processing of Signals. Ricardo L. de Queiroz and Patrick Fleckenstein. *IEEE Transactions on Signal Processing, Vol. 52, pp. 687–693 (March 2004).*

Signal Processing Using LUT Filters Based on Hierarchical VQ. Ricardo L. de Queiroz and Patrick Fleckenstein. *Proceedings of IEEE International Conference on Acoustic, Speech, and Signal Processing, (ICASSP), SPTM-P1 (May 2001).*

Very Fast JPEG Compression Using Hierarchical Vector Quantization. Ricardo L. de Queiroz and Patrick Fleckenstein. *IEEE Signal Processing Letters, Vol. 7, No. 5 (May 2000).*

Fast JPEG Encoding for Color Fax Using HVQ. Ricardo L. de Queiroz and Patrick Fleckenstein. *Proceedings of IS&T/SPIE Symposium on Electronic Imaging, Color Imaging, San Jose (Jan 2000).*

Patents

Patent 6,683,994: HVQ-based Filtering Method. Ricardo L. de Queiroz and Patrick Fleckenstein. Issued January 27, 2004.

Patent 6,286,026: Method and Apparatus for Integrating Pull and Push Tasks in Pipeline Data Processing. Dennis L. Venable, Patrick A. Fleckenstein, James E. Bollman. Issued September 4, 2001.

Patent 6,292,168: Period-based Bit Conversion Method and Apparatus for Digital Image Processing. Dennis L. Venable, Patrick A. Fleckenstein, William A. Fuss. Issued September 18, 2001.

Technical Familiarity

Languages: Lisp, C++, Perl, Unix shells, Objective-C, C, sed, make, Java, PHP, JSP, XML, HTML, XSLT, CSS, and SQL. Also: lex, yacc, PostScript, python, Fortran, Modula-2, COBOL, Logo, BASIC, and various assembly languages.

Operating Systems (and hardware): Mac OS X (x86, PPC), Linux (x86, ARM), Solaris and SunOS (various), BeOS (x86), NetBSD (CCI Okee, x86, DECStation, Sparc), Ultrix (MIPS, DECStation, KIMStation, VAX), System V/88 (Motorola 88k), and Windows NT/95/3.1 (x86).

Concepts and Packages: POSIX, STL, CORBA, UML, SDL, Kerberos V, XLib, threads, and sockets. Also: emacs, vi, git, Subversion, CVS, LaTeX, noweb, gnuplot, and gcc/g++.

Mathematics & Computer Science Education

B.S. in Computational Mathematics from the Rochester Institute of Technology in Rochester, NY.

Mathematics courses include: Numerical methods, discrete mathematics, math modeling, probability, applied statistics, set theory, abstract algebra, complex variables, real variables, graph theory, game theory, number theory, differential equations, and topology.

Computer Science courses include: Data communications, data organization and management, assembly language, and digital image processing.

Work Experience

C++/Java Developer

Developed C++ and Java code on Set Top Boxes for a satellite television company.
Nevelex Corporation, Bloomington, MN. 2015–Present.

Lisp Software Developer

Developed Lisp software at all levels of a communication system: hardware interfaces, simulators, user interfaces, network middleware, cryptography.
Clozure Associates, Boston, MA. 2013–2015.

Team lead and C++ developer

Team lead of and developer for Data Central Services team and co-lead of display system failure analysis team for National Air Traffic Control System.
Lockheed Martin, Eagan, MN. 2010–2013.

Information technology professional

Developed components for the University Portal . Administered software and supported users on a small research computing cluster.
University of Minnesota's Academic and Distributed Computing Services, Minneapolis, MN. 2007–2008.

System software engineer

Developed a geoimaging archive, and integrated the various science instruments on the NASA/USRA SOFIA project. Extensive C++, C, Java, CORBA, XML, XSLT, JSP, and SQL.
Rochester Institute of Technology's Center for Imaging Science, Rochester, NY. 1999–2007.

Computer graphics programmer

Created algorithms and infrastructure for company-wide digital image processing algorithms. Extensive use of C on Solaris and Windows NT.
Xerox Corporation [DITC/Cadisys/Sandpiper], Rochester, NY. 1991–1995, 1996–1999.

Advanced research group member

Maintained and improved heterogeneous array of machines. Mixture of system administration, system-level porting, and teaching.
Computer Science House, Rochester, NY. 1993–1998.

NetBSD kernel port

Ported NetBSD kernel to CCI Power 6/40 Okee architecture. Extensive system-level coding and debugging.

X Windows Server port

Ported of X Windows server to peculiar graphics workstations. Extensive system-level debugging.

Virtual Reality network

Designed and coded a virtual reality system. Extensive socket programming in C++ and C.

Other Programming Activities

nklein software
Personal consulting and software distribution web site.
nklein software. 1998–present.

Open-Source Lisp Libraries
Wrote many Open-Source Lisp libraries.

Clifford algebras library
Created a C++ template library and a Lisp library for Clifford algebras.

Operating systems overview seminars
Lectured on operating system concepts.
Computer Science House, Rochester, NY. 1996.