Résumé of Prof. Douglas Lyon, Ph.D.

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Milford CT 06461
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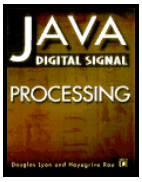
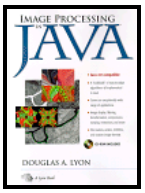
Education

Ph.D. from Rensselaer Polytechnic Institute in Computer and Systems Engineering. December 1991	Thesis: *Parallel Parking with Nonholonomic Constraints*
M.S. from Rensselaer Polytechnic Institute in Computer and Systems Engineering. May 1985	Thesis: *The Standard Renderer's Interface*
B.S. from Rensselaer Polytechnic Institute in Computer and Systems Engineering. May 1983	Senior Project images in SIGGRAPH, 1983

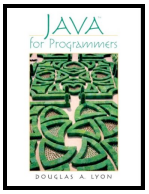
Experience



Henry Holt 1997



Prentice Hall 1999



Prentice Hall 2004

Fairfield University, **Tenured Full Professor,** September 1999 to present.
Author of three books (covers to left).
Chair of the Computer Engineering Department, 1999-2008
Co-founder/Co-director ECE MS Program, 2004 to present.
Chair of the Undergraduate Curriculum Committee, 2007
Chair of the Student Life Committee, 2006
Chair of Long Range Planning Sub Committee on Assessment, 2003.
Led team in successful ABET review, 2005.
Led creating of first industrial cohort, with Norden, 2005
Led change in curriculum
Member of the IEEE/ACM Task Force on Computer Engineering Curriculum
Member of the Graduate Housing Sub Committee
Member of the University College Committee
NSF Reviewer.

Lyon-Ratafia, Partner and CTO; May 2008 to present. A technology-based startup.

DocJava, Inc., President; 1996 to present.
Systems architect; Training; J2EE, Java-EJB, JSP, Servlets, RMI/SQL-etc. Leading a small team, developing person relationships with clients, handling daily business activities (PO's, contract, statements of work, etc.). Short Client List: Broadview, Inc., DeWitt Tool, Sikorsky Aircraft, Janus Associates, Northrop Grumman, Silent PC, etc.

University of Bridgeport, **Computer Science and Engineering Dept., Assistant Professor;** 1993-1999. **Founding Director;** Image Sequence Processing Laboratory.
Member of the Faculty Council, September 1996-1999.
Member of the Faculty Senate, September 1996-1999.
Pioneered Internet-based courseware in 1995.

AT&T Bell Laboratory, **Post-Doctoral Member of Technical Staff;** 1992-1993.
Murray Hill, NY, Graphic research resulted in international broadcast on PBS *Live at AT&T Bell Labs* using an AT&T Pixel Machine (a fine-grained MIMD machine).
Research in video games on Silicon Graphics Reality Engine and HDTV

RAYTEL, Inc., Chief Scientist; 1986-1991. Troy NY,.
Research on raster-to-vector conversion, laser display and 3D camera.

Rensselaer Polytechnic Institute, **Image Processing Laboratory, Research Assistant;** 1986-1991. UNIX System Administration,
Research in photo interpretation, color separation and image-sequence processing.

Jet Propulsion Laboratory, **Member of Technical Staff;** 1985-1986. AI Research Group.

Rensselaer Polytechnic Institute, Image Processing Laboratory, programmer; 1984 (part-time).
Research in solid modeling (PRIME 750 and IBM 4300 VM/CMS).

Cornell Medical Center, Cronobiology Research Laboratory, programmer; Summer 1983. Research in biologically motivated scientific visualization.

Image Processing Laboratory, **Computer Engineer;** 1982-1983.
Research in real-time 3D input devices.

Electronic Body Arts, **Computer Engineer;** 1980-1981.
Research in real-time 2D tracking.

Management Games Institute, Instructor; part-time position, as instructor; 1978-1979.
Taught microprocessor programming (8080), programmed microcomputers.

Consulting

DeWitt Tool Brothers Company, Ancramdale, NY, 1990 to present.
Research in diffraction range finding (patents, papers and prototypes).

Intelligent Computer Music, Inc., Albany, NY, 1989.
Research in AI controlled music composition (Mu-Lisp).

The Hyde Collection, Glens Falls, NY, 1989.
Large multi-media Apple installation.
Museum Grant Consultant

Books and book chapters

Java for Programmers, Prentice Hall, Feb 2004, 865 pages.

Image Processing in Java, Prentice Hall. April 1999, 551 pages.

Java Digital Signal Processing, Co-Authored with H. Rao, M&T Press (an imprint of Henry Holt). November 1997, 428 pages.

"Tutorial on the MIDI Standard" chapter in *Standards in Computer Generated Music*, G. Haus and I. Pighi, Editors. IEEE Computer Society Press, 1996.

Journal Publications

1. "Range finding Method Using Diffraction Gratings", *Applied Optics*, Thomas D. DeWitt and Douglas A. Lyon, May 10, 1995, vol. 34 no.14, pp. 2510-2521.

2. "Using Stochastic Petri Nets for Real-time Nth-order Stochastic Composition", by Douglas A. Lyon, *Computer Music Journal*, Winter 1995, vol. 19, no. 4, pp. 13-22.

3. "On the Teaching of Computer Music with C++", by Douglas A. Lyon, *Journal of Computing in Small Colleges*, April, 1998, 12 pages.

4. "Moly: a prototype handheld 3D digitizer with diffraction optics" *Optical Engineering*, by Thomas Ditto and Douglas A. Lyon, vol. 39, no. 1, Jan., 2000. pp. 69-78.

5. "There's More Than One Way to Build a Bridge", By Douglas A. Lyon and Christopher L. Huntley, *Computer*, May, 2002, pp. 102-103.

6. "Sensor Fusion and bang-bang control with nonholonomic constraints", by Douglas A. Lyon, *JSME International Journal*, June, 2002, pp. 479-486.7. "CentiJ: An RMI Code Generator", by Douglas A. Lyon, *Journal of Object Technology,* vol. 1, no. 5, Nov/Dec, 2002, pp. 1-32.

8. "Simulating Multiple Inheritance in Java", by Douglas A. Lyon, *Concurrency and Computation: Practice and Experience*. vol. 14, 2002, pp. 987-1008.

9. "A Min-time Analysis of Three Trajectories with Curvature and Nonholonomic Constraints Using a Parallel Parking Criterion", by Douglas A. Lyon, *JSME International Journal*, Series C, vol. 46, no. 4, December, 2003, pp. 1523-1530.

10. Asynchronous RMI for CentiJ", by Douglas A. Lyon, *Journal of Object Technology*. - vol. 3, no. 3, March-April, 2004, pp. 49-64.

11. "Project Imperion: New Semantics, Facade and Command Design Patterns for Swing", by Douglas A. Lyon, *Journal of Object Technology,* vol. 3, no. 5, May-June, 2004, pp. 51-64.

12. "The Imperion Threading System" by Douglas A. Lyon, *Journal of Object Technology*. vol. 3, no. 7, July-August, 2004, pp. 57-70.

13. "Project Initium: Programmatic Deployment" by Douglas A. Lyon, *Journal of Object Technology*, vol. 3, no. 8, September-October, 2004, pp. 55-69.

14. "The Initium X.509 Certificate Wizard" by Douglas A. Lyon, *Journal of Object Technology,* vol. 3, no. 10, November-December, 2004, pp. 75-88.

15. "On the use of a Visual Cortical Sub-band Model for Interactive Heuristic Edge Detection", by Douglas A. Lyon, *International Journal of Pattern Recognition & Artificial Intelligence (IJPRAI)*. vol. 18, no. 4, 2004, pp. 585-606.

16. "Resource Bundling for Distributed Computing" by Douglas A. Lyon, *Journal of Object Technology* , vol. 4, no. 1, January-February, 2005, pp. 45-58.

17. "Java Optimization for Superscalar and Vector Architectures" by Douglas A. Lyon, *Journal of Object Technology*. vol. 4, no. 2, March-April, 2005, pp. 27-3918. "Synthetic Image Sequence Compression" by Douglas A. Lyon, *Journal of Object Technology* , vol. 4, no. 4, May-June, 2005, pp. 19-31

19. "The JBoss Integration Plug-in for IntelliJ IDEA", Part 1 by Douglas A. Lyon, Martin Fuhrer and Thomas Rowland, Journal of Object Technology, vol. 4, no. 5, July-August, 2005, pp. 7-17.

20. "The JBoss Integration Plug-in for IntelliJ IDEA", Part 2 by Douglas A. Lyon, Martin Fuhrer and Thomas Rowland, Journal of Object Technology, vol. 4, no. 7, September-October, 2005, pp. 25-34.

21. "The JBoss Integration Plug-in for IntelliJ IDEA", Part 4 by Douglas A. Lyon, Martin Fuhrer and Thomas Rowland, Journal of Object Technology, vol. 4, no. 9, November-December, 2005, pp. 11-21.

22. "Remote Job Submission Security", by Pawel Krepsztul and Douglas A. Lyon, Journal of Object Technology, vol. 5, no. 1, January-February, 2006, pp. 13-29

23. "The JBoss Integration Plug-in for IntelliJ IDEA", Part 3 by Douglas A. Lyon, Martin Fuhrer and Thomas Rowland, Journal of Object Technology, vol. 5, no. 3, March-April, 2006, pp. 13-26.

24. "Initium RJS: Screensaver in Java, Part 1, MS Windows" by Douglas A. Lyon and Francisco Catellanos, Journal of Object Technology, vol. 5, no. 4, May-June, 2006, pp. 7-16.

25. "The Initium RJS Screensaver: Part 2, UNIX" by Douglas A. Lyon and Francisco Castellanos, Journal of Object Technology, vol. 5, no. 6, July-August, 2006, pp. 7-15.

26. "A Macintosh Screensaver in Java : Part 3",by Douglas A. Lyon, Pawel Krepsztul and Francisco Castellanos, Journal of Object Technology, vol. 5, no. 7, September-October, 2006, pp. 9-17.

27. "The Initium RJS Screensaver: Part 4, Automatic Deployment" by Douglas A. Lyon and Francisco Castellanos, Journal of Object Technology, vol. 5, no. 8, November-December, 2006, pp. 31-40.

28. "The Saverbeans Screensaver and Initium RJS System Integration: Part 5",by Douglas A. Lyon, and Francisco Castellanos, Journal of Object Technology, vol. 6, no. 1, January-February 2007, pp. 35-57.

29. "Parametric Singleton Design Pattern", by Douglas A. Lyon, and Francisco Castellanos, Journal of Object Technology, vol. 6, no. 3, March-April, 2007, pp. 13-23.

30. "Observer-Conditioned-Observable Design Pattern", by Douglas A. Lyon, and Carl Weiman, Journal of Object Technology, vol. 6, no. 4, May-June, 2007, pp. 15-24.

31. "Diffraction Range finding in Java", by Douglas A. Lyon, Journal of Object Technology, vol. 6, no. 6, July-August, 2007, pp. 15-28.

32. "Displaying Updated Stock Quotes", by Douglas A. Lyon, Journal of Object Technology, vol. 6, no. 8. September-October, 2007, pp. 19-31.

33. "Data Mining Historic Stock Quotes in Java", by Douglas A. Lyon, Journal of Object Technology, vol. 6, no. 8. November-December, 2007, pp. 17-23.

34. "Data Mining Address Book", by Douglas A. Lyon, Journal of Object Technology, vol. 7, no. 1. January-February, 2008, pp. 15-26.

35. "Fixing Apples' Broken Clipboard with Java", by Douglas A. Lyon, Journal of Object Technology, vol. 7, no. 3, March-April 2008, pp. 17-23.

36. "I Resign! Resigning Jar Files with Initium", by Douglas A. Lyon, Journal of Object Technology, vol. 7, no. 4, April-May 2008, pp. 9-27

37. "The Stock Statistics Parser", by Douglas A. Lyon, Journal of Object Technology, vol. 7, no. 6, June-July 2008, pp. 15-26

38. "Mining Edgar Tender Offers",by Douglas A. Lyon, Journal of Object Technology, vol. 7, no. 7, September-October 2008, pp. 17-31

Patents

"Variable pitch grating for Diffraction Range Finding", with Thomas D. DeWitt, US Patent Number 60/034,112, European Patent Number 97 955 059.7 and Canadian Patent Number 2277211, December 3, 2002.

"Bexture Mapping in a Diffraction Range Finding System", US Provisional Patent Number 61/133,392, June 27, 2008.

"White Light Laser Line Projector", Provisional Patent submitted to the USPTO, September 2, 2008.

Publications under review

"The Initium-CentiJ System: A Grid Computing Test bed", *Scalable Computing, Practice and Experience*, by Douglas A. Lyon, Pawel Krepsztul and Francisco Castellano

Publications to appear

"Heterogeneous Autonomic Screen-Saver CPU Scavenging", *Journal of Autonomic and Trusted Computing*, Douglas A. Lyon, Pawel Krepsztul, Francisco Castellano.

Conferences

"Multi-threaded Data Mining of Edgar CIKs (Central Index Keys) from Ticker Symbols", 1st Intl. workshop on Parallel and Distributed Computing in Finance, (PDCoF) 2008 in *Proceedings 22nd IEEE International Parallel and Distributed*

Processing Symposium, Friday, April 18, 2008 in Miami, FL, USA.

Heterogeneous Autonomic Screen-Saver CPU Scavenging", by Douglas A. Lyon, Pawel Krepsztul, New England ASEE Conference, March 17-18th, 2006, Worcester, MA.

"Interactive Heuristic Edge Detection", International Conference on Computer Graphics and Imaging (CGIM 2002) August 12-14, 2002 Kauai, Hawaii, USA International Association of Science and Technology for Development (IASTED). *Paper* 358-51

"Anamorphic magnification using a chirped grating in grazing incidence mode", by Tom Ditto and Douglas A. Lyon, Conference on Machine Vision and Three-Dimensional Imaging Systems for Inspection and Metrology, February 2001, SPIE vol. 4189 paper 19, pp.145-151

"Moly, a prototype hand-held 3D digitizer with diffraction optics", by Tom Ditto and Douglas A. Lyon,, Photonics West, San Jose CA, January 23, 1999, 3640-08, pps. 12.

"Three Dimensional Microscope using Diffraction Grating", Thomas D. DeWitt and Douglas Lyon, Optcon, SPIE - International Society for Optical Engineering, Philadelphia, PA, October 24, 1995, 2599B-35.

"Sensor Fusion using Nonholonomic Constraints", *SPIE - International Society for Optical Engineering*, *Sensor Fusion V*, Boston MA, November 17, 1992. SPIE vol. 1828 pp. 451-463.

"Parallel Parking a Car with Nonholonomic Constraints", *IEEE Intelligent Vehicles*, Detroit MI, June 29, 1992.

"Ad-Hoc and Derived Parking Curves", SPIE - International Society for Optical Engineering, Boston MA, November 8, 1990.

"An Algorithm For Generating Trajectories in N-Space", *ROBEXS '86, The Second Annual Workshop on Robotics and Expert Systems*. NASA/Johnson Space Center, June 4-6, 1986, pp. 211-218.

Other Pubs

CE 2004 – "Curriculum Guidelines for Undergraduate Degree Programs in Computer Engineering", <http://www.acm.org/education/CE-Final%20Report.pdf>. One of 20 participants in the Computer Engineering Task Force.

"Multiplexed Image Tracking", *Image Processing Laboratory Newsletter*, 1:1, 1983.

"Custom Layouts", *Java.net*. August 14, 2003 <http://today.java.net/pub/a/today/2003/08/14/layouts.html>

Adopting Java for Image Processing", by Douglas A. Lyon, *Advanced Imaging*, August 1999. pp. 42-44

Selected Courses

Embedded Control Systems	Networked Embedded Systems	C and C++ Programming (several courses at various levels)
Enterprise Java	Numeric Methods and Control	Image Processing
Voice and Signal Processing	Enterprise Computing	Computer Graphics
Computer Networks	Computer Network Programming	Operating Systems
Digital Design	Technology of Computer Music	Java Programming I&II

Computer Art Exhibits

Film procured by the American Film Institute and shown in the *Indian Film Festival*, in 1986.
Computer Animation and Stills published in *SIGGRAPH 1985*.
Computer Animation Visual Music Festivals, July 1984 and September 1984
Ray traced image published in *Research at Rensselaer*, 1984.
Computer Generated images shown in *SIGGRAPH 1983*.

Societies

Senior Member of the IEEE
Member of the IEEE Computer Society
Member of the ACM (Association of Computing Machines)

Grants

2007 PI, Donation from Altera - $5k
2007 NSF SBIR Phase II (participant in development) - $500k
2006 PI, Donation from Altera - $44k.
2006 PI, Donation from Altera - $53k.
2006 PI, Donation from Xlinx - $1.7k.
2005 NSF SBIR Phase I (participant in development)-$97k
2005 PI, Fairfield University Faculty Research Committee Grant - $900
2001 PI, Fairfield University - awarded Release-Time for Pedagogical Uses of Technology
1996 PI, EFA Grant -$50,306
1995 NSF SBIR Phase II (participant in development)-$300k
1994 PI, Ethics and Values Studies Program of the NSF-$2k
1994 PI, NSF ILI Grant –$50k
1994 PI, University of Bridgeport Larsen Professor of System Analysis–$3k
1993 NSF SBIR Phase I (participant in development)–$50k
1991 PI, NYSCA Meet the Composer Grant–$500
1990 PI, NYSCA Meet the Composer–$400
1988 PI, NYSCA Meet the Composer–$300
1988 NSF Grant (participant in development)–$1,202,930
1985 PI, Sigma Xi, The Scientific Research Society–$500
1977 PI, NSF supported voice synthesis research at North Carolina State University.

Administrative Skills

Chair, Computer Engineering; Fairfield University, Fairfield, CT.
Rework undergraduate curriculum.
ABET Review (no concerns)
Led assessment (as Chair of the Long-range planning subcommittee on assessment

for the University).
Helped started new ECE Masters program. Beating enrollment expectations.

President of DocJava, Inc.; Milford, CT. I have experience leading teams of engineers/scientists to create new technologies. My work as chair of the Computer Engineering department has led me to create sustained strategic partnerships with industry. My work as President of DocJava, Inc. has led me to make numerous business deals and to help to grow the company.

Chief Scientist; Raytel, at start-up company in Troy, NY.
Research in laser display devices.

Business Manager; WRPI (10,000 watt FM radio station)
Responsible for all financial accounting records, credit and collection, corporate minutes and notices.
Office management, supervising and directing personnel and correspondence sales, customer sales, printing and mailing, advertising and supply purchasing.
Wrote budget, submitted and defended to the higher levels of management.

Chief Engineer; WRPI (10,000 watt FM radio station)
Designed and taught courses
Wrote textbook for course
Managed 12 persons at radio station
Design/built hardware projects
General maintenance

System Administrator; Image Processing Lab
Responsibility for all operations
One employee under direct supervision
Guided Rome Air-Force Development Center funded research
Guided working-group of 5 in C/FORTRAN/IDL/PVWave Project

Service to School

Chair of the Undergraduate Curriculum Committee
Chair of the Student Life Committee
Chair of the Long Range Planning Sub-committee on University Assessment
Member of the Library Committee
Member of the Graduate Housing Sub-committee
Member of the University College Committee

Service to Profession

Member of the IEEE/ACM Task Force on Computer Engineering Curriculum.
Moderator for the open-source RXTX group (a Java-based communications API)
Session Chair; CCSNE-98, The Consortium for Computing in Small Colleges Third Annual Northeastern Conference, April 24-25, 1998, Sacred Heart University, Fairfield, CT

Service as Reviewer

IEEE Computer Graphics and Applications, 1993-1995.
IEEE Computer, 1994-2004.
IEEE Systems Man and Cybernetics" 2005 .
NSF (reviewing grants from 2000-2005).
IEEE International Conference on Grid Computing, 2005.

IEEE Transactions on Aerospace and Electronic Systems, 2007

Service to Campus Radio Station

Business Manager; WRPI (10,000 watt FM radio station) 1987-1988.
Wrote budget, $50k; Accounting; Lobbied for funding

Chief Engineer; WRPI 1984-1985, 1986-1987
Organized work parties; Maintained equipment, including 10 KW Xmitter and microwave STL; taught courses for engineer training; Wrote engineering manual (150 pages). Built and designed many projects (concept to implementation), monitor switchers, Xmitter equipment, audio amps etc.

Computer Languages

BASIC, C/C++, COBOL, Forth, FORTRAN, Java, Lisp, ZetaLisp, Pascal, PL1, Prolog, RatFOR, assemblers (PDP-8, 6502, 68xx, 8080, 68000, IBM) and operating systems (MTS, Primos, Unix, VM/CMS, MS-DOS, MAC-OS). I have used some symbolic manipulators (Maple, Mathematica, Macsyma, PowerMath II), and numerical math packages (IDL/PVWave, Eureka, Mathview Professional, STELLA, IMSL and MatLab).

Hobbies

Unifying art and technology using Computer/Electronic Art
Sailing
Hardware hobbyist
Designed and built a dual-port self-clocking digital oscillator for computer music.
Built several computers (KIM-1/KIMSI an MC6502 based system, 68HC11, Logix 0600, DTL and TTL based systems).
Built/own electronic/computer music studio
Ham radio (N1RRL)

Musical Skills

Guitar, bass, clarinet, bamboo and silver flutes, shakuhachi, synthesizers, sax, sitar, tabla, bongos, computer, tung drums, chimes and keyboards.
Started 3 experimental music ensembles
Published an album in July of 1989

Performances

Greene County Council on the Arts, Catskill, NY, December 7, 1991
State University of New York in Albany, NY, September 21, 1990
Stephentown Historical Societies in Stephentown, NY, June 26, 1988
Troy Cultural Center, Troy NY, December, 1987
State University of New York in Albany, NY, November 1987 in the Society of University Composers, Region II Conference
FM Radio Station, *WRPI*, Troy, NY, September 1987
Half-Moon Café, Albany NY on February 1987
Rensselaer Polytechnic Institute in 1983
Electronic Body Arts Chapter House, Albany NY 1982

Personal

US Citizen