lyon@DocJava.com http://www.DocJava.com/ https://www.linkedin.com/in/docjava

EDUCATION

PhD, December 1991, Rensselaer Polytechnic Institute,		Thesis: Parallel Parking with			
Computer and Systems Engineering		Nonholonomic Constraints			
MS, May 1985, Rensselaer Polytechnic Institute,		Thesis: The Standard Renderer's			
Computer and Systems Engineering		Interface			
BS, May 1983, Ren	sselaer Polytechnic Institute,	Senior Project in ACM SIGGRAPH,			
Computer and Systems Engineering		1983			
EXPERIENCE	committee				
	2017-present, Founder of BondButche	r.com (fintech venture)			
 2016-present, Angel Investor Forum of Connecticut, Member. 1999-present, Fairfield University, full, tenured professor. 2016, Director Electrical and Computer Engineering Graduate Program 2015, Applied Research Lab founder 2016, Yale University, Visiting Professor. 2014-2015, Chair of the Electrical and Computer Engineering Department 1999-2014, Chair of the Computer Engineering Department 					
				2014-present, Professional Engineer (PE)
				2011-2016, Member of Connecticut C	council of Dean's
			Accreditation Activities	 2017-present, Member ABET (Accred CEAA (Committee on Eng. Acc. 2017-present, IEEE liaison to IISE for 2012-present, Engineering Accreditate 2016, ABET: alternate Member at Lan Accreditation Activities (CEAA). ABET: Led two Program preparation 	ditation Board for Engineering Technologies) Activities). r Systems Program Criteria development. ion Commission Program Evaluator. rge of the IEEE Committee on Education <i>ts (full 6 years granted for each review)</i> .
			Program	2014. Led creation of first Engineerin	g Entrepreneurship course, student team won
			Building	1 st place for statewide business pla	in competition
			e	2014. Led creation of ECE MS Program, grew to over 80 students by 2015.	
	2013, Led creation of 5-year program	(BS CpE, MS ECE).			
	2013, Led creation of 5-year program	(BS EE, MS ECE).			
	2010, Started biomedical engineering	minor.			
Service and Leadership	2016 and 2013, Successful crowd fun 2009-present, President of Inventors A 2013, Connecticut Technology Counc 2012, Bridgeport Engineering Institut 2004, Co-author of the IEEE/ACM Co 2007, Chair of the Undergraduate Cur 2006, Chair of the Student Life Comr 2003, Chair of Long Range Planning 2005, Led creation of first industrial c 2000-2005, NSE panelist	ding projects Association of Connecticut fil business plan judge e <i>Fellow</i> . computer Engineering Body of Knowledge rriculum Committee. nittee. Sub-Committee on Assessment. ohort, with Norden.			

Entrepreneurship 2008-2016, Lyon-Ratafia, Partner and CTO; A technology-based startup. Diffraction rangefinder (a Java-based photonic device for endoscopy). This is a new class of biomedical imaging devices that have the potential to perform in vivo-histopathology, identifying diseased tissue that is often missed during visual inspections.

1996-present, DocJava, Inc., President.

- Consulting; (AWS/EC2/RDS); J2EE, Java-EJB, JSP, Servlets, RMI/SQL-etc.
 Software Development Leader, IoT, FinTech. Short Client List: Broadview, Inc.
 (OOP training), DeWitt Tool (diffraction metrology, photonic software design),
 Sikorsky Aircraft (genetic algorithms for laminate design), Janus Associates,
 Northrop Grumman, Goddard Space Flight Center, Silent PC.
- Entrepreneurship; our new fintech venture, Bondbutcher.com, now has over 120 accredited investors. A business method patent on issuing structure financial notes is used to enable the syndication of large debt tranches via equity crowd funding. The system uses Amazon Web Services (AWS) and Elastic Computing (EC2) as well as various microservices (Route 53, RDS, S3). Programming was all done in PhP and Javascript.
- Financial Data mining; our statistical arbitrage operations enable us to allocate capital into modified Dutch tender auctions with supernormal results. The data mining has been applied to 100's of funding issued by Fidelity and used to allocate capital. The data mining has been applied to insider trading, Vanguard funds as well as to broad scanning of NASDAQ, NYSE and AMEX securities. The systems are under active development and active use.
- Angel Investing; We have been active in the angel investing community as well as the equity crowdfunding community. Portals include realtyShares.com, realtyMogul.com and wefunder.com.
- P2P Investing; We have been active in the area of P2P investing, including prosper.com, lendingclub.com and upstart.com.
- 1993-1999, University of Bridgeport, Computer Science and Engineering Dept.,
 Assistant Professor. Founding Director; Image Sequence Processing Laboratory.
 1996-1999, Member of the Faculty Council, September.
 1996-1999, Member of the Faculty Senate, September.
 1995-1999, Pioneered Internet-based courseware.
- 1992-1993, AT&T Bell Laboratory, Post-Doctoral Member of Technical Staff, Murray Hill, NJ, 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. Worked
 - Research in video games on Silicon Graphics Reality Engine and HDTV. Worked on the multi-media research aspects of interactive television (all prior to the days of the web). Started a prototype on the VOTB (Virtual Office Test Best) enabling the digitization of various office services (library services, expert directories, games, etc.). Began working in interactive gaming and this led to contributions in image sequence compression. Synthesized test sequences for our new 787 HDTV format, used by the FCC trials on various HDTV standard (an all-hands-on-deck effort).
- 1986-1991, RAYTEL, Inc., Chief Scientist. Troy, NY. Research on raster-to-vector

conversion, laser display and 3D camera. This was used in laser light shows and led to several novel algorithms that have since been published. The raster-to-vector conversion problem led to a unique solution to the "Chinese Postman Problem" which is well known to be NP-Complete.

- 1986-1991, Rensselaer Polytechnic Institute, Image Processing Laboratory, Research Assistant. UNIX System Administration, Research in photo interpretation, color separation and image-sequence processing. Our work on infrared image sequence segmentation was funded by the RADC (Rome Airforce Development Center) and used to identify missiles in their boost phase.
- 1985-1986, Jet Propulsion Laboratory, Member of Technical Staff, AI Research Group, worked in ZetaLisp (flavor system) and on multiple reasoning engine (MRE). Our work centered on planning for conserved resources (forward inference) and diagnostic work on the Voyager spacecraft (backward inference). The two types of inference led to rule sets and conclusions that were posted to an object-oriented blackboard system. The Voyagers (still active today) are powered by 3 thermoelectric batteries (the heat is sourced from plutonium).
- 1984, Rensselaer Polytechnic Institute, Image Processing Laboratory, Research Assistant. Research in solid modeling (PRIME 750 and IBM 4300 VM/CMS).
- 1983, Summer, Cornell Medical Center, Cronobiology Research Laboratory, programmer. Research in biologically motivated scientific visualization.
- 1982-1983, Rensselaer Polytechnic Institute, Image Processing Laboratory, Research in real-time 3D input devices.
- 1980-1981, Electronic Body Arts, Computer Engineer. Research in real-time 2D tracking.
- 1978-1979, Management Games Institute, Instructor, taught microprocessor programming (8080), programmed business applications.

Grants 2016 PI, Kickstarter – \$5.8k, a signal processing accessory used for education, sold to the public and presently being used in our microcontrollers class.

2016 PI, Servo-Robot - \$180k, real-time embedded machine vision welding project using industrial robotic arms and arc-wielding systems.

- 2015 PI, NASA Space Grant \$8k, we developed a new graduate-level course in Electromagnetic Compatibility.
- 2014 PI, Altera \$3k, FPGA development for our advanced digital design course
- 2013 PI, Kickstarter \$7.8k, a signal processing accessory used for simulating digital to analog conversion via pulse-width modulation on a common 8-bit computer (Arduino) in our microcontroller course.
- 2012 Co-Leader, Google Workshop, CS4HS \$10k
- 2011 PI, Nvidia \$7k, support for biomedical visualization course.
- 2010 PI, Altera \$10k, support for our work in Java to VHDL conversion.
- 2010 PI, Nvidia-\$4k, support for computer graphics course
- 2010 PI, Altera \$8k, support for block-chain research

- 2009 PI, Altera \$88k, support for advance digital design course (CR246)
- 2009 PI, Altera \$177k, support for CR246
- 2009 PI, Altera \$38k, support for CR246
- 2007 PI, Altera \$5k, support for CR246
- 2007 Senior Member, NSF SBIR Phase II, DeWitt Tool Brothers, Inc, \$500k, Variable pitch diffraction rangefinder research.
- 2006 PI, Altera \$44k, support for CR246
- 2006 PI, Altera \$53k, support for CR246
- 2006 PI, Xlinx \$2k, support for CR246
- 2005 Senior Member, NSF SBIR Phase I, DeWitt Tool Brothers-\$97k
- 2005 PI, Fairfield University Faculty Research Committee Grant \$900
- 2001 PI, Fairfield University Release-Time for Pedagogical Uses of Technology
- 1996 PI, EFA Grant -\$50k, Educational Foundation of America, Image Processing
 - Laboratory
- 1995 Senior Member, NSF SBIR Phase II, DeWitt Tool Brothers-\$300k
- 1994 PI, Ethics and Values Studies Program of the NSF-\$2k
- 1994 PI, NSF ILI Grant \$50k, Image Processing Laboratory
- 1994 PI, University of Bridgeport Larsen Professor of System Analysis-\$3k
- 1993 Senior Member, NSF SBIR Phase I (DeWitt Tool Brothers, Inc)-\$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, Image Processing Lab)-\$1,202,930
- 1985 PI, Sigma Xi, The Scientific Research Society-\$500
- 1977 PI, NSF supported voice synthesis research at North Carolina State University.
- To appear"Heterogeneous Autonomic Screen-Saver CPU Scavenging", Journal of Autonomic
and Trusted Computing, Douglas A. Lyon, Pawel Krepsztul, Francisco Castellano.

Books



Author of three books (covers to left)

Java Digital Signal Processing, Douglas A. Lyon and H. Rao, Revised Epub Ed., Amazon, Jan. 2015.

Henry Holt 1997

Image Processing in Java, Douglas A. Lyon, Revised Epub Ed., Amazon, Jan. 2014. Java for Programmers, Douglas A. Lyon, Revised Epub Ed., Amazon, Jan. 2013.



Prentice Hall 1999

Java for Programmers, Douglas A. Lyon, Prentice Hall, Feb 2004, 865 pages. A book used for 3 graduate level software engineering courses targeting students who already know programming, but do not know Java. Code examples are distributed in 45 chapters that culminate in server-side Java (including Servlets, JSP, EJBs, XML, SAX, DOM, etc.). This book has also been used in a Computer Networks courses (both at the graduate and undergraduate level).

Image Processing in Java, Douglas A. Lyon, Prentice Hall. April 1999, 551 pages. The first image processing book in Java. Used in Biomedical Imaging and Image Processing courses (both at the graduate and undergraduate level). Topics include restoration, compression, segmentation, transforms, edge detection, morphological



Prentice Hall 2004

filters, boundary processing, geometric transforms. All code examples included.

Java Digital Signal Processing, Douglas A. Lyon and H. Rao, Henry Holt. November 1997, 428 pages. The first signal processing book in Java. Used in Biomedical Signal Processing and Voice and Signal Processing courses (both at the graduate and undergraduate level). Topics include optical systems design, transforms, CODECs, geometric transforms, u-law encoding, synthesis, analysis, streaming multimedia and file formats. All code examples included.

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

Journal Publications

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

Journal Publications

- 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. 27-39.18.
 "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.
- "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.
- "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.
- "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.
- 39. "The U-Law CODEC", by Douglas A. Lyon, *Journal of Object Technology*, vol. 7, no. 8, November-December 2008, pp. 17-31.
- 40. "Interactive Face Recognition", by Douglas A. Lyon and Nishanth Vincent, *Journal* of Object Technology, vol. 8, no. 1, January-February 2009, pp. 23-53.
- 41. "Creating Servlets with Intellij V8", by Douglas A. Lyon, *Journal of Object Technology*, vol. 8., no. 2, March-April 2009 pp. 15-28.
- 42. "The Discrete Fourier Transform: Part 1", by Douglas A. Lyon, *Journal of Object Technology*, vol. 8., no. 3, May-June 2009 pp. 17-26.

- 43. "The Discrete Fourier Transform: Part 2: Radix 2 FFT", by Douglas A. Lyon, *Journal of Object Technology*, vol. 8., no. 5, July-August 2009 pp. 21-33.
- 44. "The Discrete Fourier Transform: Part 3 The PSD", by Douglas A. Lyon, *Journal of Object Technology*, vol. 8, no. 6, September-October 2009, pp. 17-30.
- 45. "The Discrete Fourier Transform: Part 4 The Spectral Leakage", by Douglas A. Lyon, *Journal of Object Technology*, vol. 8, no. 7, November-December 2009, pp. 23-34.
- 46. "The Discrete Fourier Transform: Part 5 The Spectrogram", by Douglas A. Lyon, *Journal of Object Technology*, vol. 9, no. 1, January-February 2010, pp. 15-24.
- 47. "The Discrete Fourier Transform: Part 6 Cross Correlation", by Douglas A. Lyon, *Journal of Object Technology*, vol. 9, no. 2, March-April 2010, pp. 17-22.
- 48. "Semantic Annotation for Java", by Douglas A. Lyon, *Journal of Object Technology*, vol. 9, no. 3, May-June 2010, pp. 19-29.
- 49. "The Java Tree Withers" by Douglas A. Lyon, *IEEE Computer*, Jan. 2012, pp. 83-85.

Patents1. "Variable pitch grating for Diffraction Range Finding", by Thomas D. DeWitt and
Douglas A. Lyon, US PPA 60/034,112, issued as US Patent #6,490,028, European
Patent Number 97 955 059.7 and Canadian Patent Number 2277211, December 30,
1996.

- 2. "Bexture Mapping in a Diffraction Range Finding System", by Douglas A. Lyon, US Patent Pending, Number 61/133,392, June 27, 2008.
- 3. "White Light Laser Line Projector", by Douglas A. Lyon, US Patent Pending, Number 61/190,906, September 2, 2008.
- 4. "ODLR Endoscope", by Douglas A. Lyon, US Patent Pending, Number 61/215552, April 21, 2009.
- 5. "Semantic Annotation for Java", by Douglas A. Lyon, US Patent Pending, Number 61/304,863, February 16, 2010.
- 6. "Programmable Signal Processing Toy", by Douglas A. Lyon, US Patent Pending, Number 61/836,542, June 24, 2013.
- 7. "Method of structuring bond investments entailing fractional allocations", by

Douglas A. Lyon, US Patent Pending Number 62/443,678, Jan. 2, 2017.

Compatibility Course" by Balaji and Lyon, ASEE-NE 2016.

CTSpace Grant Poster Presentation, October 14, 2016, Hartford, CT, USA.

- "Multi-threaded Data Mining of Edgar CIKs (Central Index Keys) from Ticker Symbols", by Douglas A. Lyon, 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", by Douglas A. Lyon, 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 A. Lyon, Optcon, SPIE - International Society for Optical Engineering, Philadelphia, PA, October 24, 1995, 2599B-35.
- "Sensor Fusion using Nonholonomic Constraints", by Douglas A. Lyon, *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", by Douglas A. Lyon, *IEEE Intelligent Vehicles*, Detroit MI, June 29, 1992.
- "Ad-Hoc and Derived Parking Curves", by Douglas A. Lyon, SPIE International Society for Optical Engineering, Boston MA, November 8, 1990.
- "An Algorithm For Generating Trajectories in N-Space", by Douglas A. Lyon, *ROBEXS* '86, *The Second Annual Workshop on Robotics and Expert Systems*. NASA/Johnson Space Center, June 4-6, 1986, pp. 211-218.

Other Pubs

- 1. CE 2004 "Curriculum Guidelines for Undergraduate Degree Programs in Computer Engineering", co-authored with 20 others, IEEE and the ACM, 2004.
 - 2. "Custom Layouts", by Douglas A. Lyon, *Java.net*. August 14, 2003 http://today.java.net/pub/a/today/2003/08/14/layouts.html

- 3. "Adopting Java for Image Processing", by Douglas A. Lyon, *Advanced Imaging*, August 1999. pp. 42-44
- 4. "Introduction to the TI Explorer", IPL-TR-087, Image Processing Laboratory, 10/26/88, RPI, Troy, NY 12181
- 5. *"The Straw User's Manual*, A state-of-the-art ray tracer", Image Processing Laboratory Documentation Bulletin D-137, RPI, Troy, NY 12181, 8/17/87.
- 6. "*Natural Language Processing with Prolog*", Image Processing Laboratory User Bulletin U-176A, RPI, Troy, NY 12181, 7/20/87.
- 7. "DBS2NUM", Image Processing Laboratory, User Bulletin U-176B, RPI, Troy, NY 12181, 8/3/87.
- "DBS2NUM Human Readable DBS Files", Image Processing Laboratory User Bulletin U-177, RPI, Troy, NY 12181, 8/3/87.
- "BSD 2.9 Errors in the Floating Point FORTRAN Library", RPI Communications and Signal Processing Laboratory User Bulletin C-102, RPI, Troy, NY 12181, 7/27/87.
- 10. "*Plotting on the Tektronix Storage Tube*", RPI Communications and Signal Processing Laboratory User Bulletin C-101, RPI, Troy, NY 12181, 7/13/87.
- 11. "Raster-To-Vector Conversion with A Vector Ordering Post-Process", U-175, Image Processing Laboratory, RPI, Troy, NY 12181, 5/22/87.
- 12. "Introduction to the TI Explorer", Image Processing Laboratory Technical Report IPL-TR-087, RPI, Troy, NY 12181, 10/22/86.
- 13. "A Computer Vision Introduction to the Image Processing Laboratory", For Computer Vision 35.6650, RPI, Troy, NY 12181, 9/9/86.
- 14. "Modifications to Xlogout", Image Processing Laboratory Technical Memo IPL-TM-022-B, RPI, Troy, NY 12181, 8/8/86.
- 15. "The Photointerpretation Workstation", Image Processing Laboratory Technical Memo, RPI, Troy, NY 12181, 1986 (RADC Contract.
- 16. Computer Animation procured by the American Film Institute and shown in the *Indian Film Festival*, in 1986.
- "Reference Manual for the MRE Graphics Interface" by Mark L. James and Douglas A. Lyon, For Jet Propulsion Laboratory, California Institute of Technology, Pasadena CA, 1986.
- "Raster-To-Vector Conversion", Image Processing Laboratory User Bulletin U-170, 6/25/85.

- 19. Computer Animation and Stills published in SIGGRAPH 1985.
- 20. Ray traced image published in Research at Rensselaer, 1984.
- 21. Computer generated images in Visual Music Festivals, July 1984 and September 1984.
- 22. "Multiplexed Image Tracking", by Douglas A. Lyon, *Image Processing Laboratory Newsletter*, 1:1, 1983.
- 23. Computer Graphic images shown in SIGGRAPH 1983.
- 24. "Melodies for the Music Box" by Douglas A. Lyon, 6502 User Notes, No. 13, 1978, pp. 25

Administrative Skills	 As Chair, Computer Engineering; Fairfield University, Fairfield, CT. Reworked undergraduate curriculum. Led ABET Review (twice) Led assessment (as Chair of the Long-range planning subcommittee on assessment for the University). ECE Masters program founding co-director Helped found two 5-year programs (EE and CpE) ABET Program Evaluator.
	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/PV wave Project
Service to	Chair of the Undergraduate Curriculum Committee (member 3 years)
School	Chair of the Student Life Committee
	Chair of the Long Range Planning Sub-committee on University Assessment
	Member of Academic Council (3 years)
	Member of the Library Committee (three times)
	Member of the Graduate Housing Sub-committee
	Member of the University College Committee
	Member of the Sunset Catalog UCC Sub-committee (Spring 2009)
	2012-present, ABET Program Evaluator.
Service to	April 20, 2017, MIT Enterprise Forum Panelist
Profession	February 20, 2009, Keynote speaker, Automation in Manufacturing Conference,
	Fairfield University, Fairfield Connecticut.
	2006-present, President, Inventors Association of Connecticut (IACT), 2008-Present,
	Board Member, IACI.
	2004, Member of the IEEE/ACM Task Force on Computer Engineering Curriculum.
	Moderator for the open-source RX1X group (a Java-based communications API)
	Third Annual Northeastern Conference, April 24, 25, 1008, Second Heart University
	Fairfield CT
	2013 CT Business Plan Competition Judge
Service as	2013, C1 Dusiness Fian Competition Judge. 2011 World Scientific and Engineering Academy and Society Transactions on Signal
Reviewer	Processing
	2010 International Conference on Cyber-Enabled Distributed Computing and
	Knowledge Discovery.
	2006-present, Future Generation Computer Systems.
	2009-present, Research Initiatives & Development Services & UW-Milwaukee
	Research Foundation.
	2007, IEEE Transactions on Aerospace and Electronic Systems.
	2005, IEEE Systems Man and Cybernetics.
	2000-2005, NSF panelist.
	2005, IEEE International Conference on Grid Computing.
	1993-1995, IEEE Computer Graphics and Applications.
	1994-2004, IEEE Computer.

Selected	
Courses	

Microcontrollers	Networked Embedded Systems	Reading in ECE
Enterprise Java	Engineering Entrepreneurship	Thesis supervision
Voice and Signal Processing	Image Processing	Computer Graphics
Computer Networks	Computer Network Programming	Operating Systems

Digital Design I&II,	Technology of Computer Music	Intro and grad Programming
Biomedical Imaging	Biomedical Signal Processing	Biomedical Vis.

Consulting DeWitt Tool Brothers Company, Ancramdale, NY, 1990 to 2006. -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. **Computer Art** Computer Animation procured by the American Film Institute 1986. **Exhibits** Computer Animation in the Indian Film Festival 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 1983-2015 Member of the IEEE Computer Society 1986-2015 Member of the ACM (Association of Computing Machines) 1991-2009 Service to Business Manager; WRPI (10,000 watt FM radio station) 1987-1988. Wrote budget, \$50k; Accounting; Lobbied for funding Campus Radio Station Chief Engineer; WRPI 1984-1985, 1986-1987 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 Assemblers (PDP-8, 6502, 68xx, 8080, 68000, IBM), BASIC, C/C++, COBOL, Forth, Languages FORTRAN (II, IV, 77, 95), Java, Pascal, PL1, Prolog, RatFOR, VHDL, ZetaLisp, and operating systems (Windows, UNIX, MACOS). 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, Troy, NY, 1983
	Electronic Body Arts Chapter House, Albany NY 1982

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