

Dr. Vijay K. Madisetti

Fellow, IEEE

vkm@madisetti.com

Cell: 770-527-0177

Address:

**56 Creekside Park Drive
Johns Creek, GA 30022**

Employment:

- 1989-present: Full Professor of Cybersecurity & Privacy, and Electrical & Computer Engineering (**Georgia Tech, Atlanta, GA 30332**).

Areas of Technical Interest – Embedded Systems, Wireless & Mobile Communications, Computer Engineering, Circuit Design (Analog/Digital), Biomedical Instrumentation Hardware/Software, Software Engineering, Digital Signal Processing, Sensors, Wireline & Wireless Computer Networks, Software Systems, Control Systems, Chip Design, Cloud Computing.

Education: **PhD** (EECS, University of California at Berkeley, 1989), **B.Tech** (Hons) in Electronics and Electrical Communications Engineering (Indian Institute of Technology, Kharagpur, 1984).

Startup Companies:

Director, **VP Technologies, Inc.** (1995-): A startup commercialized through Georgia Tech's Advanced Technology Development Corporation (ATDC) focusing on digital software and hardware design services for military market. <http://www.vptinc.net>

Director, **Soft Networks, LLC** (2001-2007): A startup commercialized through Georgia Tech support focusing on software development tools and compilers for Cellular/WiFi/VOIP/telecommunication products. <http://www.soft-networks.com>

Director, **Elastic Video Inc.** (2007- 2009): A startup commercialized through Georgia Tech's VentureLab (<http://venturelab.gatech.edu>) development image and video processing software for wireless & IP networking.

Litigation Experience (2015-2021) With Testimony

(Note: There may be multiple cases between the parties, e.g., District Court v. ITC, US versus Foreign Cases)

Chrimar v. Adtran, Alcatel, et al.

Technology: Power over Ethernet (2015-2017)

Submitted reports & Deposition & Trial

Chamberlain v. Ryobi/TTI

Case No: 1:16-cv-06097 (ND Illinois)

Expert for Ryobi

Technology: Wireless/IoT/Barrier Movement (2016 – 2019)

Submitted reports & deposition & trial testimony

IOEngine v. IMC/Imation

Case No: cv-14-1572-GMS (US Delaware)

Expert for IMC/Imation

Technology: Networked Storage Device (2016-2017)

Submitted reports & deposition & trial testimony

Huawei v. Samsung

Case No: 3:16-cv-2787-WHO (ND Cal)

Expert for Samsung

Technology: 4G/LTE Random Access Protocols (2016-2019)

Submitted reports & deposition

Hitachi Maxell v. ZTE/Huawei

Case No: 5:16-cv-00178-RWS (ED Texas)

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted reports & deposition (2017 – 2018)

Hitachi Maxell v. Apple

Case No: 5:19-cv-00036-RWS

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted Expert Reports (2020-)

Qualcomm v. Apple

Case No: 17-ccv-0108-GPC-MDD (SD Cal) Also, Related ITC/FTC Matters

Expert for Qualcomm

Technology: 4G/Wireless Communications/Smartphones (2017-2019)

Submitted Reports and Deposition

Qualcomm v. Apple

Case No: 3:17-cv-01375-DMS-MDD (SD Cal)

Expert for Qualcomm
Technology: 4G/Wireless Communications/Smartphones (2017-2019)
Submitted Reports and Deposition

Optis v. Huawei

Case No: 2:17-cv-123 (E.D. Texas)
Expert for Optis Wireless
Technology: 4G/Video (2017-2019)
Submitted reports & deposition

Beckman Coulter v. Sysmex

Case No: 1:17-cv-24049-DPG (ND Illinois)
Expert for Sysmex
Technology: Medical Instrumentation Automation (2017-present)
Testifying Expert

TQ Delta v. Xyvel/Adtran

Expert for TQ Delta
Technology: DSL Technologies (2018-present)
Testifying Expert

3GL/KPN v. LG, Blackberry, HTC

Expert for 3GL/KPN
Technology: 4G/LTE Protocols (2018-present)
Reports and Deposition / Testifying Expert

Rovi v. Comcast

ITC No. 337-TA-1103 (ITC)
Expert for Rovi
Technology: Digital Video & interactive GUI (Jan 2018-May 2018)
Reports and Deposition

Cirba/Densify v. VMWare

Case No: 1:19-cv-00742-LPS
Expert for Cirba/Densify
Technology: Virtualization (2019-present)
Reports Deposition/PI Hearing / Testifying Expert

Power Integrations v. On Semiconductor

Case No: 17-cv-03189-BLF
Expert for On Semiconductor
Technology: Power Electronics (2018-2019)
Reports & Deposition/Testifying Expert.

Pathway v. Lumens, IPEVO, Aver JDA

Case No: ITC 337-TA-1045

Expert for Lumens JDA

Technology: Document Cameras (2016-2019)

Reports & Deposition (for IPR/ITC, no trial)

Wilan v. Apple

Case No: 3:14-cv-2235

Expert for WiLan

Technology: Voice over LTE/LTE Protocols (2017-2020)

Reports and Testified through Deposition/Trials

St. Lawrence Comm. v. Amazon

Case No. 2:19-CV-00027-JRG

Expert for Amazon

Technology: Multimedia Codecs

Submitted Expert Reports/Deposition (2020-2020)

PanOptis v. Apple

Case No. 2:19-CV-00066-JRG

Expert for PanOptis

Technology: LTE

Submitted Expert Reports/Deposition/Trial (2019-2020)

GAS v. Sprint Communications

Case No. 2:20-cv-00007-RWS

Expert for General Access (GAS)

Technology: LTE

Submitted Expert Reports/Deposition (9/21-)

Additional matters include declarations supporting IPRs at the PTAB for Google (US Patent 8,601,154), On Semiconductor (US Patent 6,212,079), Ubisoft (US Patent 5,490,216), Lumens JDA (2017-2019), Broadcom (WiFi), Sony (US Patent 6,101,534), Kia, (US Patent 5,530,431), Qualcomm, Ericsson, Daimler Benz, VW, Estech, Amazon, Ring, Digital Ally, On Semiconductor, United Patents, Lenovo, BMC Software, BMW, Daimler and Dolby.

Earned Degrees

1. B. Tech (Hons), Electronics & Electrical Comm. Engineering

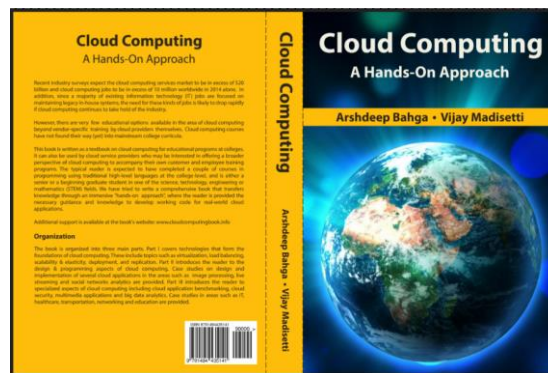
Indian Institute of Technology (IIT), Kharagpur, India

1984.

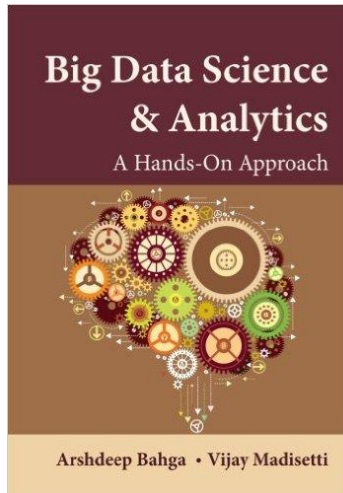
- 2. Ph.D., Electrical Engineering & Computer Sciences (EECS)**
University of California (UC), Berkeley. CA
1989.

Books

- 1. VLSI Digital Signal Processors**
Madiseti, V.K.;
Boston: MA, IEEE Press: Butterworth Heinemann, 1995, 525 pp.
- 2. Quick-Turnaround ASIC Design in VHDL**
Romdhane, M., Madiseti, V.K., Hines, J.
Boston: MA, Kluwer Academic Press, 1996, 190 pp.
- 3. The Digital Signal Processing Handbook (First Edition)**
Madiseti, V. K., Williams, D. (Editors)
CRC Press, Boca Raton, Fla, 1998, 2500 pp.
- 4. VHDL: Electronics Systems Design Methodologies.**
Madiseti, V. K. (Editor)
Boston: MA, IEEE Standards Press, 2000, ISBN 0-7381-1878-8.
- 5. Platform-Centric Approach to System-on-Chip (SoC) Design.**
Madiseti, V. K., Arpnikanondt, A.
Springer, Boston: MA, Springer, 2004, 280 pp.
- 6. The Digital Signal Processing Handbook – Second Edition.**
Madiseti, V. K. (2009)
CRC Press, Boca Raton, Fla.
- 7. Cloud Computing: A Hands-On Approach**
A Bahga, V. Madiseti (2013)
Amazon CreateSpace Publishing, 2013, 454 pp.
- 8. Internet of Things: A Hands-On Approach**
A Bahga, V. Madiseti (2014)
Amazon CreateSpace Publishing, 2014, 450 pp.



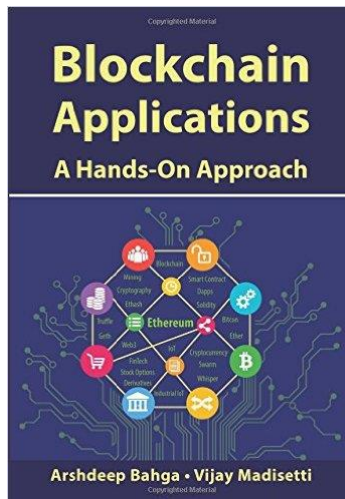
- 9. Big Data Science & Analytics: A Hands-On Approach**
A Bahga, V. Madiseti (2016)
 Amazon CreateSpace Publishing, 2016, 542 pp.



10. Blockchain Applications: A Hands-On Approach

A Bahga, V. Madiseti (2017)

Amazon CreateSpace Publishing, 2017, 380 pp.



Edited Books & Collection of Papers

1. Advances in Parallel & Distributed Simulation

Madiseti, V.K.; Nicol, D., Fujimoto, R. (Editors)

San Diego, CA: SCS Press, 1991, 200 pp.

2. Modeling, Analysis, Simulation of Computer & Telecommunications Systems

Madiseti, V., Gelenbe, E., Walrand, J. W. (Editors)

Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. Modeling & Simulations on Microcomputers

Madisetti, V.K. (Editor)

San Diego, CA: SCS Press, 138 pp. 1990.

Editorship of Journals & Transactions

1. IEEE Design & Test of Computers

Special Issue: Reengineering Digital Systems

April – June 1999 (Vol 16, No 2)

Madisetti, V.K (Editor)

Los Alamitos: CA, IEEE Computer Society Press, 1999.

2. IEEE Design & Test of Computers

Special Issue: Rapid Prototyping of Digital Systems

Fall 1996 (Vol 13, No 3)

Madisetti, V., Richards, M. (Editors)

Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. IEEE Transactions on Circuits & Systems II

Associate Editor: 1993-1995.

4. International Journal in Computer Simulation

Associate Editor: 1990-1993

5. International Journal in VLSI Signal Processing

Editorial Board: 1995 - Present

Recent Issued US Patents

- [1] [10,503,927](#) [Method and system for securing cloud storage and databases from insider threats and optimizing performance](#), Issued Dec 10, 2019
- [2]. [10,460,283](#) [Smart contract optimization for multiparty service or product ordering system](#), Issued Oct 29, 2019
- [3]. [10,459,946](#) [Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing](#), Issued Oct 29, 2019

- [4]. [10,402,589 Method and system for securing cloud storage and databases from insider threats and optimizing performance](#), Issued Sep 3, 2019
- [5]. [10,394,845 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing](#), Issued Aug 27, 2019
- [6]. [10,289,631 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing](#), Issued May 24, 2019
- [7]. [10,255,342 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing](#), Issued April 9, 2019
- [8]. [10,243,743 Tokens or crypto currency using smart contracts and blockchains](#), Issued March 26, 2019
- [9]. [10,204,339 Method and system for blockchain-based combined identity, ownership, integrity and custody management](#), Issued February 12, 2019
- [10]. [10,204,148 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing](#), Issued Feb 12, 2019
- [11]. [10,121,143 Method and system for blockchain-based combined identity, ownership, integrity and custody management](#), Issued Nov 6, 2018
- [12]. [10,102,526 Method and system for blockchain-based combined identity, ownership, integrity and custody management](#), October 16, 2018
- [13]. [10,102,265 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing](#), October 16, 2018
- [14]. [9,935,772 Methods and systems for operating secure digital management aware applications](#), April 3, 2018
- [15]. [9,769,213 Method and system for secure digital object management](#), Issued Sep 19, 2017

Refereed Journal Publications

1. Trends in the Electronic Control of Mine Hoists

*Madiseti, V. and Ramlu, M.,
IEEE Transactions on Industry Applications, Vol IA-22, No. 6,
November/December 1986. Pages 1105-1112*

2. Multilevel range/NEXT performance in digital subscriber loops

Brand, G.; Madiseti, V.; Messerschmitt, D.G.;
Communications, Speech and Vision, IEE Proceedings I [see also IEE

Proceedings-Communications] ,Volume: 136 , Issue: 2 , April 1989
Pages:169 – 174

3. Seismic migration algorithms on parallel computers

Madisetti, V.K.; Messerschmitt, D.G.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on] ,Volume: 39 , Issue: 7 , July 1991
Pages:1642 – 1654

4. Asynchronous algorithms for the parallel simulation of event-driven dynamical systems

Madisetti, V.K.; Walrand, J.C.; Messerschmitt, D.G.:
ACM Transactions on Modeling and Computer Simulation, v 1, n 3, July 1991,
Pages: 244-74

5. Synchronization mechanisms for distributed event-driven computation

Madisetti, V.K.; Hardaker, D.:
ACM Transactions on Modeling and Computer Simulation, v 2, n 1, Jan. 1992,
Pages: 12-51

6. Efficient VLSI Architectures for the Arithmetic Fourier Transform (AFT)

Kelley, B.T.; Madisetti, V.K.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on] ,Volume: 41 , Issue: 1 , January
1993
Pages:365-378

7. The fast discrete Radon transform. I. Theory

Kelley, B.T.; Madisetti, V.K.;
Image Processing, IEEE Transactions on ,Volume: 2 , Issue: 3 , July 1993
Pages:382 – 400

8. The Georgia Tech digital signal multiprocessor

Barnwell, T.P., III; Madisetti, V.K.; McGrath, S.J.A.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on] ,Volume: 41 , Issue: 7 , July 1993
Pages:2471 – 2487

9. The MIMDIX Environment for Parallel Simulation

Madisetti, V.K.; Hardaker, D.; Fujimoto, R.M.:
Journal of Parallel and Distributed Computing, v18, no. 4, August 1993,
Pages: 473-83.

- 10. LMSGEN: a prototyping environment for programmable adaptive digital filters in VLSI**
Romdhane, M.S.B.; Madisetti, V.K.;
Chapter in VLSI Signal Processing, VII, 1994.,
Pages:33 – 42
- 11. Fixed-point co-design in DSP**
Egolf, T.W.; Famorzadeh, S.; Madisetti, V.K.;
Chapter in VLSI Signal Processing, VII, 1994.,
Pages:113 - 126
- 12. A fast spotlight-mode synthetic aperture radar imaging system**
Madisetti, V.K.;
Communications, IEEE Transactions on ,Volume: 42 , Issue: 234 , February-April 1994
Pages:873 – 876
- 13. Rapid prototyping on the Georgia Tech digital signal multiprocessor**
Curtis, B.A.; Madisetti, V.K.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] ,Volume: 42 , Issue: 3 , March 1994
Pages:649 – 662
- 14. Low-power signaling in asymmetric noisy channels via spectral shaping**
Sipitca, M.; Madisetti, V.K.;
Signal Processing Letters, IEEE, Volume: 1 , Issue: 8 , Aug 1994
Pages:117 – 118
- 15. A quantitative methodology for rapid prototyping and high-level synthesis of signal processing algorithms**
Madisetti, V.K.; Curtis, B.A.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] ,Volume: 42 , Issue: 11 , Nov. 1994
Pages:3188 – 3208
- 16. Computer Simulation of Application-Specific Signal Processing Systems**
Casinovi, G.; Madisetti, V.K.;
International Journal in Computer Simulation, Vol. 4, No. 4, Nov 1994.
- 17. System partitioning of MCMs for low power**
Khan, S.A.; Madisetti, V.K.;
Design & Test of Computers, IEEE ,Volume: 12 , Issue: 1 , Spring 1995
Pages:41 – 52

18. Error correcting run-length limited codes for magnetic recording

Jaejin Lee; Madisetti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 31 , Issue: 6 , Nov. 1995

Pages:3084 – 3086

19. Virtual prototyping of embedded microcontroller-based DSP systems

Madisetti, V.K.; Egolf, T.W.;

Micro, IEEE ,Volume: 15 , Issue: 5 , Oct. 1995

Pages:9 – 21

20. Constrained multitrack RLL codes for the storage channel

Lee, J.; Madisetti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 31 , Issue: 3 , May 1995

Pages:2355 – 2364

21. Rapid digital system prototyping: current practice, future challenges

Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:12 – 22

22. Conceptual prototyping of scalable embedded DSP systems

Dung, L.-R.; Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:54 – 65

23. Advances in rapid prototyping of digital systems

Madisetti, V.K.; Richards, M.A.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:9

24. Combined modulation and error correction codes for storage channels

Jaejin Lee; Madisetti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 32 , Issue: 2 , March 1996

Pages:509 – 514

25. Model-based architectural design and verification of scalable embedded DSP systems-a RASSP approach

Dung, L.-R.; Madisetti, V.K.; Hines, J.W.;

Chapter in VLSI Signal Processing, IX, 1996.

Pages:147 – 156

26. Low-power digital filter implementations using ternary coefficients

Hezar, R.; Madisetti, V.K.;

Chapter in VLSI Signal Processing, IX, 1996.,

Pages:179 – 188

27. All-digital oversampled front-end sensors

Romdhane, M.S.B.; Madisetti, V.K.;

Signal Processing Letters, IEEE, Volume: 3 , Issue: 2 , Feb. 1996

Pages:38 – 39

28. Modeling COTS components in VHDL

Calhoun, S., Reese, R; Egolf, T., Madisetti, V.K.;

Journal of VLSI Signal Processing, Volume: 14 , Issue: 2 , Nov 1996

Pages: 24 – 31

29. VHDL-Based Rapid Systems Prototyping

Egolf, T.; Madisetti, V.K.;

Journal of VLSI Signal Processing, Volume: 14 , Issue: 2 , Nov 1996

Pages: 40-52

30. Interface design for core-based systems

Madisetti, V.K.; Lan Shen;

Design & Test of Computers, IEEE ,Volume: 14 , Issue: 4 , Oct.-Dec. 1997

Pages:42 - 51

31. Incorporating cost modeling in embedded-system design

Debardelaben, J.A.; Madisetti, V.K.; Gadiant, A.J.;

Design & Test of Computers, IEEE ,Volume: 14 , Issue: 3 , July-Sept. 1997

Pages:24 – 35

32. On homomorphic deconvolution of bandpass signals

Marenco, A.L.; Madisetti, V.K.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and

Signal Processing, IEEE Transactions on] ,Volume: 45 , Issue: 10 , Oct. 1997

Pages:2499 – 2514

**33. A case study in the development of multi-media educational material:
the VHDL interactive tutorial**

Gadiant, A.J.; Stinson, J.A., Jr.; Taylor, T.C.; Aylor, J.H.; Klenke, R.H.;

Salinas, M.H.; Madisetti, V.K.; Egolf, T.; Famorzadeh, S.; Karns, L.N.; Carter,

H.W.;

Education, IEEE Transactions on ,Volume: 40 , Issue: 4 , Nov. 1997

Pages:17 pp.

34. Adaptive mobility management in wireless networks

Jeongwook Kim; Madisetti, V.K.;

Electronics Letters ,Volume: 34 , Issue: 15 , 23 July 1998

Pages:1453 – 1455

35. Efficient implementation of two-band PR-QMF filterbanks

Hezar, R.; Madisetti, V.K.;

Signal Processing Letters, IEEE ,Volume: 5 , Issue: 4 , April 1998

Pages:92 – 94

36. On fast algorithms for computing the inverse modified discrete cosine transform

Yun-Hui Fan; Madisetti, V.K.; Mersereau, R.M.;

Signal Processing Letters, IEEE ,Volume: 6 , Issue: 3 , March 1999

Pages:61 – 64

37. System on chip or system on package?

Tummala, R.R.; Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:48 – 56

38. Reengineering legacy embedded systems

Madisetti, V.K.; Jung, Y.-K.; Khan, M.H.; Kim, J.; Finnessy, T.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:38 – 47

39. Reengineering digital systems

Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:15 – 16

40. Parameter optimization of robust low-bit-rate video coders

Sangyoun Lee; Madisetti, V.K.;

Circuits and Systems for Video Technology, IEEE Transactions on, Volume: 9
Issue: 6 , Sept. 1999

Pages:849 – 855

41. Closed-form for infinite sum in bandlimited CDMA

Jatunov, L.A.; Madisetti, V.K.;

Communications Letters, IEEE ,Volume: 8 , Issue: 3 , March 2004

Pages:138 – 140

42. A new protocol to enhance path reliability and load balancing in mobile ad hoc networks

Argyriou, A.; Madisetti, V.K.;

Journal of Ad Hoc Networks, Elsevier Press, 2004

43. Closed-form analysis of CDMA systems using Nyquist pulse

Jatunov, L.A.; Madisetti, V. K.;

Communications Letters, IEEE (Under Revision), 2005.

44. Systematic Design of End-to-End Wireless Mobility Management Protocols,

Argyriou, A.; Madisetti, V. K.;

ACM/Springer Wireless Networks (WINET), Accepted 2005.

45. A Novel End-to-End Approach for Video Streaming Over the Internet,

Argyriou, A.; Madisetti, V. K.;

Kluwer Telecommunications Systems, Vol. 28, No. 2, Pages 133-150, Jan 2005. *Special Issue on Multimedia Streaming.*

46. An Analytical Framework of RD Optimized Video Streaming with TCP,

Argyriou, A.; Madisetti, V. K.;

IEEE Transactions on Multimedia, Submitted for review in March 2005.

47. Modeling the Effect of Handoffs on Transport Protocol Performance,

Argyriou, A.; Madisetti, V. K.;

IEEE Transactions on Mobile Computing, Submitted for review in March 2005

48. Throughput Models for Transport Protocols with CBR and VBR Traffic Workloads",

Argyriou, A.; Madisetti, V. K.;

ACM Transactions on Multimedia Computing, Communications & Applications, Submitted for review in April 2005.

49. "Electronic System, Platform & Package Codesign",

Madisetti, V. K.

IEEE Design & Test of Computers, Volume 23, Issue 3, June 2006. pages 220-233.

50. "The Design of an End-to-End Handoff Management Protocol",

A. Argyriou, Madisetti, V. K.

Wireless Networks, Springer, May 2006.

51. "A Soft-Handoff Transport Protocol for Media Flows in Heterogeneous Mobile Networks ",

A. Argyriou, Madisetti, V. K.

Computer Networks, Vol 50, Issue 11, Pages 1860-1871, August 2006.

- 52. "Computationally Efficient SNR Estimation for Bandlimited WCDMA Systems"**
L. Jatunov, Madisetti, V. K.
IEEE Transactions on Wireless Communications, Volume 5, Issue 13,
December 2006, Pages 3480-3491.
- 53. "Space-Time Codes for Wireless & Mobile Applications",**
M. Sinnokrot, Madisetti, V.K.
DSP Handbook, Second Edition, 2009 (to be published)
- 54.A. Bahga, V. Madisetti, "Rapid Prototyping of Advanced Cloud-Based Systems",** *IEEE Computer*, vol. 46, no. 11, Nov 2013, pp 76-83, 2013
- 55.A. Bahga, V. Madisetti, "Cloud-Based Information Integration & Informatics Framework for Healthcare Applications",** *IEEE Computer*, February 2015.
- 56.A. Bahga, V. Madisetti, "A Cloud-based Approach for Interoperable EHRs",** *IEEE Journal of Biomedical and Health Informatics*, vol. 17, no. 5, Sep 2013, pp. 894-906, 2013
- 57.A. Bahga, V. Madisetti, "Cloud-Based Information Technology Framework for Data Driven Intelligent Transportation Systems",** *Journal of Transportation Technologies*, vol.3 no.2, April 2013
- 58.A. Bahga, V. Madisetti, "Performance Evaluation Approach for Multi-tier Cloud Applications",** *Journal of Software Engineering and Applications*, vol. 6, no. 2, pp. 74-83, Mar 2013.
- 59.Yusuf, A., V. Madisetti, "Configuration for Predicting Travel Time Using Wavelet Packets and Support Vector Regression",** *Journal of Transportation Technologies*, vol 3, no. 3, June 2013.
- 60.A. Bahga, V. Madisetti, "Analyzing Massive Machine Maintenance Data in a Computing Cloud",** *IEEE Transactions on Parallel and Distributed Systems*, vol. 23, no. 10, pp. 1831 - 1843, 2012.
- 61.N. Radia. Y. Zhang, M. Tatimapula, V. Madisetti, "Next Generation Applications on Cellular Networks: Trends, Challenges, and Solutions,"** *Proceedings of the IEEE*, Vol 100, Issue 4, pp. 841-854, 2012.
- 62.A. Bahga, V. Madisetti, "Rapid Prototyping of Advanced Cloud-Based Systems",** *IEEE Computer*, vol. 46, no. 11, Nov 2013, pp 76-83, 2013

- 63.**A. Bahga, V. Madiseti, "**A Cloud-based Approach for Interoperable EHRs**", *IEEE Journal of Biomedical and Health Informatics*, vol. 17, no. 5, Sep 2013, pp. 894-906, 2013
- 64.**A. Bahga, V. Madiseti, "**Cloud-Based Information Integration & Informatics Framework for Healthcare Applications**", *IEEE Computer*, February 2015.

Peer Reviewed Conference Publications

- 1. Dynamically-reduced complexity implementation of echo cancelers**
Madiseti, V.; Messerschmitt, D.; Nordstrom, N.;
Acoustics, Speech, and Signal Processing, IEEE International Conference on ICASSP '86. ,Volume: 11 , Apr 1986
- 2. Seismic migration algorithms using the FFT approach on the NCUBE multiprocessor**
Madiseti, V.K.; Messerschmitt, D.G.;
Acoustics, Speech, and Signal Processing, 1988. ICASSP-88., 1988
International Conference on , 11-14 April 1988
- 3. Seismic migration algorithms on multiprocessors**
Madiseti, V.K.; Messerschmitt, D.G.;
Acoustics, Speech, and Signal Processing, 1988. ICASSP-88., 1988
International Conference on , 11-14 April 1988
Pages:2124 - 2127 vol.4
- 4. WOLF: A rollback algorithm for optimistic distributed simulation systems**
Madiseti, V.; Walrand, J.; Messerschmitt, D.;
Simulation Conference Proceedings, 1988 Winter , December 12-14, 1988
Pages:296 – 305
- 5. Efficient distributed simulation**
Madiseti, V.; Walrand, J.; Messerschmitt, D.;
Simulation Symposium, 1989. The 22nd Annual , March 28-31, 1989
Pages:5 - 6
- 6. High speed migration of multidimensional seismic data**
Kelley, B.; Madiseti, V.;

Acoustics, Speech, and Signal Processing, 1991. ICASSP-91., 1991
International Conference on , 14-17 April 1991
Pages:1117 - 1120 vol.2

7. Performance of a fast analog VLSI implementation of the DFT

Buchanan, B.; Madiseti, V.; Brooke, M.;
Circuits and Systems, 1992., Proceedings of the 35th Midwest Symposium on
, 9-12 Aug. 1992
Pages:1353 - 1356 vol.2

8. Task scheduling in the Georgia Tech digital signal multiprocessor

Curtis, B.A.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1992. ICASSP-92., 1992 IEEE
International Conference on ,Volume: 5 , 23-26 March 1992
Pages:589 - 592 vol.5

9. The fast discrete Radon transform

Kelley, B.T.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1992. ICASSP-92., 1992 IEEE
International Conference on ,Volume: 3 , 23-26 March 1992
Pages:409 - 412 vol.3

10.Yield-based system partitioning strategies for MCM and ASEM design

Khan, S.; Madiseti, V.;
Multi-Chip Module Conference, 1994. MCMC-94, Proceedings., 1994 IEEE,15-
17 March 1994
Pages:144 - 149

11. Multitrack RLL codes for the storage channel with immunity to intertrack interference

Lee, J.; Madiseti, V.K.;
Global Telecommunications Conference, 1994. GLOBECOM '94.
'Communications: The Global Bridge', IEEE,Volume: 3 , 28 Nov.-2 Dec. 1994
Pages:1477 - 1481 vol.3

12. A parallel mapping of backpropagation algorithm for mesh signal processor

Khan, S.A.; Madiseti, V.K.;
Neural Networks for Signal Processing [1995] V. Proceedings of the 1995
IEEE Workshop , 31 Aug.-2 Sept. 1995
Pages:561 - 570

13. Virtual prototyping of embedded DSP systems

Madiseti, V.K.; Egolf, T.; Famorzadeh, S.; Dung, L.-R.;
Acoustics, Speech, and Signal Processing, 1995. ICASSP-95., 1995

International Conference on ,Volume: 4 , 9-12 May 1995
Pages:2711 - 2714 vol.4

14. Assessing and improving current practice in the design of application-specific signal processors

Shaw, G.A.; Anderson, J.C.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1995. ICASSP-95., 1995
International Conference on ,Volume: 4 , 9-12 May 1995
Pages:2707 - 2710 vol.4

15. Introduction to ARPA's RASSP initiative and education/facilitation program

Corley, J.H.; Madiseti, V.K.; Richards, M.A.;
Acoustics, Speech, and Signal Processing, 1995. ICASSP-95., 1995
International Conference on ,Volume: 4 , 9-12 May 1995
Pages:2695 - 2698 vol.4

16. DSP design education at Georgia Tech

Madiseti, V.K.; McClellan, J.H.; Barnwell, T.P., III;
Acoustics, Speech, and Signal Processing, 1995. ICASSP-95., 1995
International Conference on ,Volume: 5 , 9-12 May 1995
Pages:2869 - 2872 vol.5

17. Rapid prototyping of DSP systems via system interface module generation

Famorzadeh, S.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1996. ICASSP-96. Conference Proceedings., 1996 IEEE International Conference on ,Volume: 2 , 7-10 May 1996
Pages:1256 - 1259 vol. 2

18. Rapid prototyping of DSP chip-sets via functional reuse

Romdhane, M.S.B.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1996. ICASSP-96. Conference Proceedings., 1996 IEEE International Conference on ,Volume: 2 , 7-10 May 1996
Pages:1236 - 1239 vol. 2

19. A constructive deconvolution procedure of bandpass signals by homomorphic analysis

Marenco, A.L.; Madiseti, V.K.;
Geoscience and Remote Sensing Symposium, 1996. IGARSS '96. 'Remote Sensing for a Sustainable Future.', International ,Volume: 3 , 27-31 May 1996
Pages:1592 - 1596 vol.3

20. BEEHIVE: an adaptive, distributed, embedded signal processing environment

Famorzadeh, S.; Madiseti, V.; Egolf, T.; Nguyen, T.;
Acoustics, Speech, and Signal Processing, 1997. ICASSP-97., 1997 IEEE
International Conference on ,Volume: 1 , 21-24 April 1997
Pages:663 - 666 vol.1

21. Target detection from coregistered visual-thermal-range images

Perez-Jacome, J.E.; Madiseti, V.K.;
Acoustics, Speech, and Signal Processing, 1997. ICASSP-97., 1997 IEEE
International Conference on ,Volume: 4 , 21-24 April 1997
Pages:2741 - 2744 vol.4

22. Variable block size adaptive lapped transform-based image coding

Klausutis, T.J.; Madiseti, V.K.;
Image Processing, 1997. Proceedings., International Conference on ,Volume:
3 , 26-29 Oct. 1997
Pages:686 - 689 vol.3

23. A Rate 8/10 (0, 6) MTR Code And Its Encoder/decoder

Jaejin Lee; Madiseti, V.K.;
Magnetics Conference, 1997. Digests of INTERMAG '97., 1997 IEEE
International , 1-4 April 1997
Pages:BS-15 - BS-15

24. VHDL models supporting a system-level design process: a RASSP approach

DeBardelaben, J.A.; Madiseti, V.K.; Gadiant, A.J.;
VHDL International Users' Forum, 1997. Proceedings , 19-22 Oct. 1997
Pages:183 - 188

25. A performance modeling framework applied to real time infrared search and track processing

Pauer, E.K.; Pettigrew, M.N.; Myers, C.S.; Madiseti, V.K.;
VHDL International Users' Forum, 1997. Proceedings , 19-22 Oct. 1997
Pages:33 - 42

26. System design and re-engineering through virtual prototyping: a temporal model-based approach

Khan, M.H.; Madiseti, V.K.;
Signals, Systems & Computers, 1998. Conference Record of the Thirty-
Second Asilomar Conference on ,Volume: 2 , 1-4 Nov. 1998
Pages:1720 - 1724 vol.2

27. A debugger RTOS for embedded systems

Akgul, T.; Kuacharoen, P.; Mooney, V.J.; Madiseti, V.K.;
Euromicro Conference, 2001. Proceedings. 27th , 4-6 Sept. 2001
Pages:264 - 269

28. Adaptability, extensibility and flexibility in real-time operating systems

Kuacharoen, P.; Akgul, T.; Mooney, V.J.; Madiseti, V.K.;
Digital Systems, Design, 2001. Proceedings. Euromicro Symposium on , 4-6 Sept. 2001
Pages:400 - 405

29. Effect of handoff delay on the system performance of TDMA cellular systems

Turkboylari, M.; Madiseti, V.K.;
Mobile and Wireless Communications Network, 2002. 4th International Workshop on , 9-11 Sept. 2002
Pages:411 - 415

30. Enforcing interdependencies and executing transactions atomically over autonomous mobile data stores using SyD link technology

Prasad, S.K.; Bourgeois, A.G.; Dogdu, E.; Sunderraman, R.; Yi Pan; Navathe, S.; Madiseti, V.;
Distributed Computing Systems Workshops, 2003. Proceedings. 23rd International Conference on , 19-22 May 2003
Pages:803 - 809

31. Performance evaluation and optimization of SCTP in wireless ad-hoc networks

Argyriou, A.; Madiseti, V.;
Local Computer Networks, 2003. LCN '03. Proceedings. 28th Annual IEEE International Conference on , 20-24 Oct. 2003
Pages:317 - 318

32. Implementation of a calendar application based on SyD coordination links

Prasad, S.K.; Bourgeois, A.G.; Dogdu, E.; Sunderraman, R.; Yi Pan; Navathe, S.; Madiseti, V.;
Parallel and Distributed Processing Symposium, 2003. Proceedings. International , 22-26 April 2003
Pages:8 pp.

33. Bandwidth aggregation with SCTP

Argyriou, A.; Madiseti, V.;
Global Telecommunications Conference, 2003. GLOBECOM '03. IEEE Volume: 7 , 1-5 Dec. 2003
Pages:3716 - 3721 vol.7

34. Software streaming via block streaming

Kuacharoen, P.; Mooney, V.J.; Madisetti, V.K.;
Design, Automation and Test in Europe Conference and Exhibition, 2003
, 2003
Pages:912 – 917

35. Frequency-dependent space-interleaving for MIMO OFDM systems

Mohajerani, P.; Madisetti, V.K.;
Radio and Wireless Conference, 2003. RAWCON '03. Proceedings , Aug. 10-13, 2003
Pages:79 - 82

36. A media streaming protocol for heterogeneous wireless networks

Argyriou, A.; Madisetti, V.;
Computer Communications, 2003. CCW 2003. Proceedings. 2003 IEEE 18th Annual Workshop on , 20-21 Oct. 2003
Pages:30 – 33

37. Realizing load-balancing in ad-hoc networks with a transport layer protocol

Argyriou, A.; Madisetti, V.;
Wireless Communications and Networking Conference, 2004. WCNC. 2004 IEEE ,Volume: 3 , 21-25 March 2004
Pages:1897 - 1902 Vol.3

38.Streaming H.264/AVC video over the Internet

Argyriou, A.; Madisetti, V.;
Consumer Communications and Networking Conference, 2004. CCNC 2004. First IEEE , 5-8 Jan. 2004
Pages:169 – 174

Other Publications

1. **A Transport Layer Technology for Improving the QoS of Networked Multimedia Applications <draft-madisetti-arguriou-qos-sctp-00.txt>.**
Madisetti, V., Argyriou, A.
IETF Internet-Draft, Jul 25, 2002.
2. **Voice & Video over Mobile IP Networks <draft-madisetti-argyriou-voice-video-mip-00.txt>**
Madisetti, V., Argyriou, A.
IETF Internet-Draft, Nov 20, 2002.
3. **Enhancements to ECRTTP with Applications to Robust Header Compression for Wireless Applications. <draft-madisetti-rao-suresh-rohc-00.txt>**
Madisetti, V.; Rao, S., Suresh, N.
IETF Internet-Draft, June 30, 2003.

Ph.D. Students Graduated

1. **Brian T. Kelley, 1992**
VLSI Computing Architectures for High Speed Signal Processing
Member of Technical Staff, Motorola.

Winner of Dr. Thurgood Marshall Dissertation Fellowship Award
2. **Bryce A. Curtis, 1992**
Special Instruction Set Multiple Chip Computer for DSP
Member of Technical Staff, IBM
3. **Jaejin Lee, 1994**
Robust Multitrack Codes for the Magnetic Channel
Professor, Yonsei University, Korea
4. **Mohamed S. Ben Romdhane, 1995**
Design Synthesis of Application-Specific IC for DSP
Director of IP, Rockwell.
5. **Shoab A. Khan, 1995**
Logic and Algorithm Partitioning on MCMs
Professor, National University of Science & Technology, Pakistan
6. **Lan-Rong Dung, 1997**
VHDL-based Conceptual Prototyping of Embedded DSP Architectures
Professor, National Chaio Tung University, Taiwan.

Winner of VHDL International Best PhD Thesis Award, 1997

7. Thomas W. Egolf, 1997

Virtual Prototyping of Embedded DSP Systems

Distinguished Member of Technical Staff, Agere

8. Alvaro Marenco, 1997

On Homomorphic Deconvolution of Bandpass Signals

Professor, Texas A&M University.

Winner of GIT ECE Outstanding Teaching Assistant Award

9. Shahram Famorzadeh, 1997

BEEHIVE: A Distributed Environment for Adaptive Signal Processing

Member of Technical Staff, Rockwell.

10. Timothy J. Klausutis, 1997

Adaptive Lapped Transforms with Applications to Image Coding.

US Air Force/Univ. of Florida.

11. Lan Shen, 1998

Temporal Design of Core-Based Systems

Member of Technical Staff, IBM

12. James DeBardelaben, 1998

Optimization Based Approach to Cost Effective DSP Design

Research Scientist, Johns Hopkins University

Georgia Tech ECE Faculty Award

13. Sangyoun Lee, 1999

Design of Robust Video Signal Processors

Professor, Yonsei University

US Army Sensors Lab Research Excellence Award, 1999

14. Rahmi Hezar, 2000

Oversampled Digital Filters

Member of Technical Staff, Texas Instruments

15. Yong-kyu Jung, 2001

Model-Based Processor Synthesis

Professor, Texas A&M University

16. Mustafa Turkboylari, 2002

Handoff Algorithms for Wireless Applications

Member of Technical Staff, Texas Instruments

17. Yun-Hui Fan, 2002

A Stereo Audio Coder with Nearly Constant Signal to Noise Ratio

Post-Doctoral Research Associate, Northeastern University

18. Subrato K. De, 2002

Design of a Retargetable Compiler for DSP
Member of Technical Staff, Qualcomm

US Army Sensors Lab Research Excellence Award, 1999

19. Chonlameth Aripnikanondt, 2004

System-on-Chip Design with UML
Professor, King Mongkut's University, Thailand.

US Army Sensors Lab Research Excellence Award, 1999

20. Loran Jatunov, 2004

Performance Analysis of 3G CDMA Systems
Senior Research Scientist, Soft Networks, LLC.

21. Antonios Argyriou, 2005, Serving in Hellenic Army.

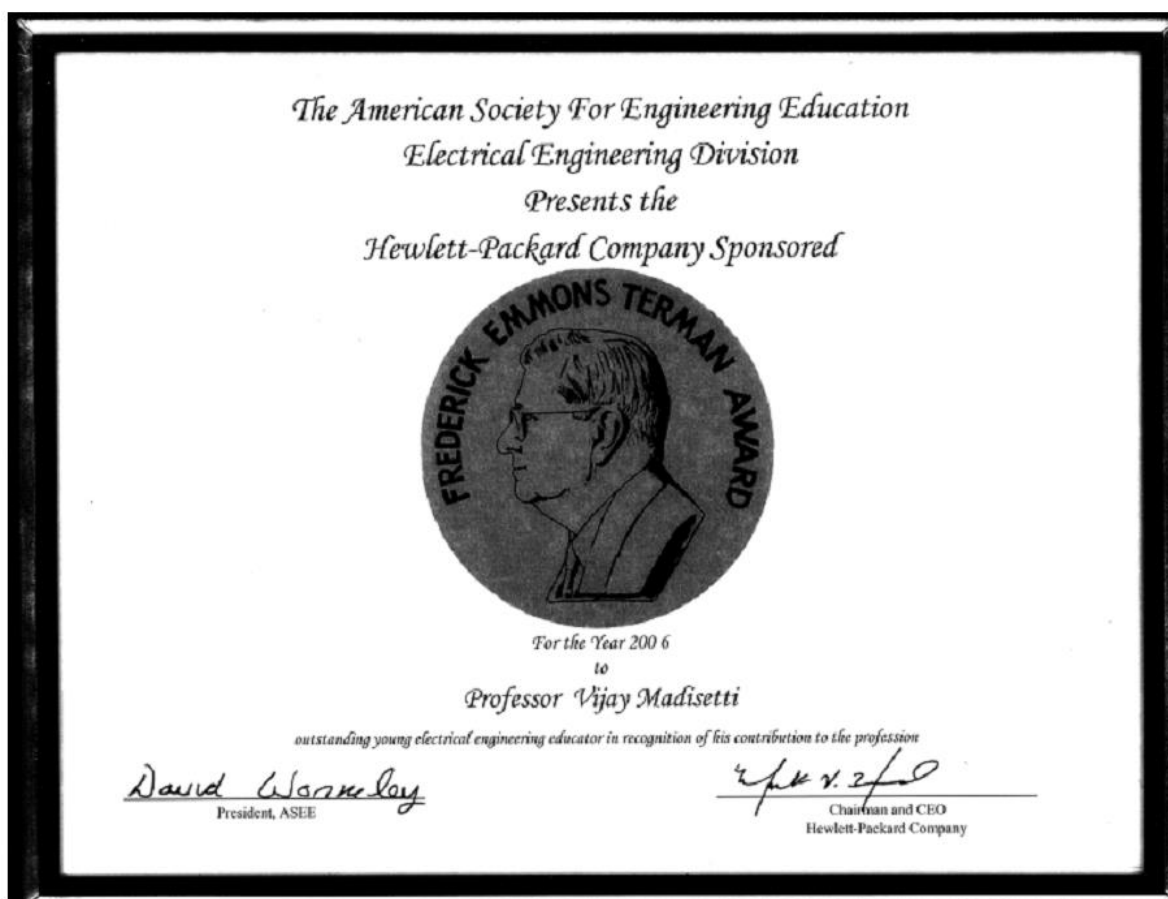
22. Pilho Kim, 2009, Scientist, VP Technologies, Inc.

23. M. Sinnokrot, 2009, Staff Engineer, Qualcomm.

Awards & Honors

1. **Jagadis Bose National Science Talent Fellowship**, Indian Institute of Technology, Kharagpur, 1980-1984.
2. **General Proficiency Prize**, Indian Institute of Technology, Kharagpur, 1984.
3. **Demetri Angelakos Outstanding Graduate Student Award**, Univ. of California, Berkeley, 1989
4. **Ira Kay IEEE/ACM Best Paper Award** for Best Paper presented at IEEE Annual Simulation Symposium, 1989
5. **IBM Faculty Development Award** 1990
6. **Technical Program Chair**, IEEE Workshop on Parallel and Distributed Simulation. 1990.
7. **Technical Program Chair**, IEEE MASCOTS'94
8. **NSF RI Award**, 1990
9. **VHDL International Best PhD Dissertation Advisor Award**, 1997

10. Georgia Tech Outstanding Doctoral Dissertation Advisor Award, 2001.
11. ASEE 2006 Frederick Emmons Terman Medal, 2006.
12. Fellow of IEEE



Intellectual Property Disclosures (Georgia Tech)

<u>Patent</u>	<u>Date</u>	<u>Description</u>
2843	2004	Method and Apparatus for Improving the Performance of Wireless LANs
2825	2003	Method and Apparatus for Optimal Partitioning and Ordering of Antennas for Layered Space-Time Block Codes in MIMO Communications Systems
2815	2003	How to Rapidly Develop a SyD Application
GSU-023	2003	Rapid Development of SyD Applications

2810	2003	System on Mobile Devices Middleware Design
2718	2003	A Transport Layer Algorithm for Improved Anycast Communication
2717	2003	A Novel Transport Layer Load-Balancing Algorithm
2716	2003	A Transport Layer QoS Algorithm
2715	2003	A Novel Transport Layer Algorithm for MPLS Performance
2659	2002	A New Algorithm and Technology for Implementing Mobile IP with Applications to Voice and Video over Mobile IP
2656	2002	Debugging with Instruction-Level Reverse Execution
2655	2002	Embedded Software Streaming
2539		System of Databases: An Enabling Technology for Programming
2517	2002	A Dynamic Instantiated Real-Time Operating System Debugger
2516	2002	A Dynamic Real-Time Operating System
GSU-009	2001	System of Databases: Architecture,, Global Queries, Triggers and Constraints
2480	2001	Mobile Fleet Application based on SyD Technology
2479	2001	System of Databases: A model with coordination links and a calendar application
1893	1999	Beehive
1726	1995	Very High Scale Integrated Circuit Hardware Description Language Models (VHDL Models)
1401	1995	Self-Compensation Receiver (SCR)

Issued Patents: 9,935,772, 9,769,213