Dr. Ramesh Yerraballi
The University of Texas at Austin
Electrical & Computer Engineering
EER Building, 2501 Speedway
Austin TX-78712

Phone: 512-468-7913
Fax: 512-471-5532
E-mail: ramesh@mail.utexas.edu
Website: http://www.ece.utexas.edu/~ryerraballi

RameshYerraballi

Objective

To be a part of an academic institution which has a strong and dedicated commitment to quality education and research.

Education

1992–1996 Old Dominion University
Ph.D. Computer Science
1987–1991 Osmania University, India
B.E. Computer Science and Engineering

Experience (Teaching/ Research)

- August 2018 – Current, The University of Texas at Austin
  Professor of Instruction – ECE, Teaching.
- August 2016 – Spring 2018, The University of Texas at Austin
  Distinguished Senior Lecturer – ECE, Teaching.
- Jan 2008 – July 2016, The University of Texas at Austin
  Senior Lecturer – ECE and BME Departments, Teaching.
- May 2002 - Dec 2007, The University of Texas at Arlington
  Senior Lecturer and Graduate Advisor - Dept. of CSE, Teaching, Service and Research.
- Jan 1999 - May 2002, The University of Texas at Arlington
  Assistant Professor - Dept. of CSE, Research, Teaching and Service.
- Aug. 1996 - Dec. 1998, Midwestern State University
  Assistant Professor - Dept. of CS, Research, Teaching and Service
- Aug. 1991 - July 1996 Old Dominion University
  Instructor/Research Assistant/Teaching Assistant

Experience (Systems)

- ***University of Texas at Arlington***
  - Designed and Managed the Network and Multimedia Teaching Lab.
  - Designed and built an ATM Networking Research Lab.
  - Designed and built a mobile computing lab for the CReWMaN center.
- ***Midwestern State University***
  - Built a new UNIX Sun workstation network lab for the CS department. The lab is used for courses, mail and web service.
  - System Designer - Built a UNIX network using Pentium 200 machines running Linux, used the network for teaching systems programming.
  - System Administrator - Maintained the computer science department's VAX machine running Ultrix.
- ***Old Dominion University***
- Network/System Administrator - Built a network for experimental research on a DARPA grant. The network consisted of 5 Sun SPARC-Workstations (3 SPARC-station 2s and 2 SPARC-20s) running Beta-versions of Solaris.

Experience (Industry)

- ***ActivFolio*****,** May 1999 – December 2000 (part-time employment)
  Chief Technical Officer and Architect
- ***Verifone Inc.*** May 1998 – June 1998
  Training for Java Programming (Threads, RMI, JDBC); In-house smart-card Software Programming; C++ Programming; Prepared and delivered two-week courses on each.

Courses Taught

My overall student rating for over 80 courses taught in the past 11 years at UT is 4.5/5.0

- UT Austin – IIT Hyderabad joint summer program on Embedded Systems titled "Embedded Systems and Industry Experience in India". (Summer 2014 and 2016)
  - EE360 – Special Problems in ECE
  - EE319K – Introduction to Embedded Systems
- **University of Texas at Austin, Dept. of ECE**
  - Operating Systems (EE379K, EE461S) – Fall 2015, Fall 2016, Fall 2017, Fall 2018, Spring 2019)
  - UT Austin EdX MOOC titled, "Real-Time Bluetooth Networks – Shape the World", Fall 2016, Fall 2017, Fall 2018, Fall 2019.
  - UT Austin EdX MOOC titled, "*Embedded Systems – Shape The World*", Spring 2018, 2017, 2016, 2015 and 2014. Enrollment in 2014 was 41,000 students with the highest paid-completion of all programs in EdX. 2015 enrollment at 28,000 students. 2016 enrollment at 30,000, 2018 and 2017 enrollments are <12,000;
  - Introduction to Computing (EE 306) - Spring 2008, Spring 2010, Fall 2012, Fall 2013, Fall 2014, Fall 2016, Fall and Spring 2017, Fall 2018, Fall 2019.
  - Data Structures (EE 322C) – Spring 2008, Fall 2008, Spring 2009
  - Embedded Systems (EE 319K) – Fall 2008, Spring 2009, Fall 2009, Spring 2010,Fall 2010, Spring 2011, Fall 2011, Spring 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014,Spring 2015, Fall 2015, Spring 2016, Spring 2017, Spring 2018, Spring 2019.
  - Digital Logic Design (EE 316) – Fall 2009
  - Concurrent and Distributed Systems (EE 360P) – Spring 2009

- **University of Texas at Austin, Dept. of ECE Option III MS program**
  - Systems Programming (EE 382V) – Fall 2017
  - Computer Networks (EE 382V) – Fall 2016, Spring 2019

- **University of Texas at Austin, McCombs School, MSITM program**
  - Big-Data and Distributed Computing (MIS 284N) – Fall 2018, Fall 2019
  - Adv. Programming and App Development (MIS 382N) – Summer 2019

- **University of Texas at Austin, Dept. of BME**
  - Probability, Random Processes and Statistics (BME 335) - Spring 2011, Spring 2012, Spring 2013, Spring 2014
  - Introduction to Computing for Biomedical Engineers (BME 303) – Fall 2011, Fall 2012, Fall 2013, Fall 2014
  - Network Analysis for Biomedical Engineering (BME311) –Spring 2012, Spring 2013, Spring 2014

- **St. Edwards University, Dept of MCIS**
  - Modern Methods in Software Engineering (MCIS 6316) – Fall 2010

- **University of Texas at Arlington, Dept. of CSE**
  - Advanced Operating Systems (CSE 5306) - Spring 1999
  - Computer Networks (CSE 4344) – Summer 2000, Fall 2002, Spring 2003, Fall 2003, Spring 2004, Spring 2005, Fall 2005, Spring 2006
  - Computer Networks (CSE 5344) – Spring 2002
  - Digital Multimedia Design (CSE 4392) – Fall 2007
  - Multimedia Systems (CSE 4348-5348) - Fall 1999, 2000, 2001, 2002, 2003
  - Operating Systems (CSE 3320) – Fall 1999, Spring 2001, Fall 2007
  - Performance Analysis of Computer Systems (CSE 5355) – Fall 2004, 2005, Spring 2007
  - Real-Time Systems Design (CSE 5326) – Spring 2000, Spring 2002
  - Systems Programming (CSE 4392-5392) – Spring 2003, 2004, 2005, 2006, 2007

- **Midwestern State University, Dept. of CS**
  - UNIX Systems Programming (CMPS 3313) - Fall 1997
  - Computer Architecture (CMPS 5133) - Fall 1997
  - Theory of Computing (CMPS 4883) - Summer 1997
  - Algorithm Analysis (CMPS 5243) - Spring 1997
  - Operating Systems (CMPS 5143) - Fall 1996
  - Computer Science 1 (CMPS 1043) - Fall 1996

- **Old Dominion University, Dept. of CS**
  - Instructor for Distributed Systems (CS775-875) - Fall 1995
  - Teaching Assistant for Real-Time Systems (CS763) - Spring 1995
  - Teaching Assistant: Problem Solving and Programming in C++(CS250) - Spring 1995

Computer Skills

- *System/Network Administration*: Linux, Solaris, Windows, Mac OS X.
- *Systems Programming*: Shell Programming, Network programming (Sockets), RPC, RMI, CORBA, X-Window programming.
- *Languages*: C++, C, Java, Python, Perl, Tcl/Tk, Pascal, Fortran, SQL, Assembly languages – ARM, DLX, MC68020, 8086, IBM360/370.
- *Operating Systems*: UNIX Internals (4.3BSD, SVR4, SunOS and Solaris, Linux), DOS and Windows NT, 2000.
- *TCP/IP Internals*: UNIX (4.3 BSD, SVR4, Solaris, Linux)

Scholarships/ Awards/Honors

- "Class of 2020 Student Choice Award", Zoom live vote by students in Spring 2020 during COVID-19.
- "Best Class Structure Award", Voted by students in Spring 2020 during COVID-19.
- "Most Outstanding Professor in ECE Department", 2019.
- "First-Year Student's Choice Award", 2018, A ECE UAB award.
- "Dads' Association Centennial Teaching Fellowship", 2017, A UT Austin award.
- "Lepley Teaching Award", 2015, A ECE department award.
- "Most Outstanding Professor in BME Department", award by Student Engineering Council, College of Engineering at UT Austin. April 2015.
- "Most Outstanding Professor in BME Department", award by Student Engineering Council, College of Engineering at UT Austin. April 2014.
- "Outstanding Faculty Member", by Texas Blazers, the premier male service organization at the University of Texas.
- Invited Panel speaker at the New Faculty Seminar 2013 to discuss Active Learning approaches in classroom.
- "Most Outstanding Professor in ECE Department", award by Student Engineering Council, College of Engineering at UT Austin. April 2013.
- "Most Outstanding Professor in ECE Department", award by Student Engineering Council, College of Engineering at UT Austin. April 2012.
- "Most Outstanding Professor in ECE Department", award by Student Engineering Council, College of Engineering at UT Austin. April 2011.
- "Most Outstanding Professor in ECE Department", award by Student Engineering Council, College of Engineering at UT Austin. February 2010.
- "*Teaching Excellence Award*" conferred by the College of Engineering at UT Arlington (Voted by students; $2,000; December 2002).
- A 2-year fellowship from NASA for pursuing my Ph.D., Old Dominion University (1994-95).
- Secondary Education Merit Scholarship, SSC Board (1985-1987).
- State Merit Scholarship for Academic Excellence, Osmania University 1987.

Publications/ Conference Presentations

(Areas: *Engineering Education*, *Multimedia Communications* and *Operating Systems*)

1. Jon Valvano, Ramesh Yerraballi and Chad Fulton, "Teaching Embedded Systems in a MOOC Format", 2016 ASEE Annual Conference & Exposition. *Best paper award*.
2. Ramesh Yerraballi, "YDraw – A Non-Intrusive Electronic Instructional Tool", *ASEE,*

Conference for Industry and Education Collaboration - Engineering Technology Division, in Austin TX, Feb 2016. *Best paper award*.

3. Ramesh Yerraballi, Sejal Mehta and Kavitha Venkata Gooty, "Embedded Systems and Industry Experience in India – A UT Study-Abroad Program" *ASEE, Conference for Industry and Education Collaboration*, in Austin TX, Feb 2016.
4. Jon Valvano, Ramesh Yerraballi, Chad Fulton and Chinmaya Dattathri, "Embedded Systems – Shape The World", *American Society for Engineering Education, International Forum.* June 2014.
5. Ramesh Yerraballi and Shraddha Rumade, "Distributed Streaming for Video on Demand", *Pacific-Rim Conference on Multimedia(PCM)* , December 2007.
6. Amit Vasudevan and Ramesh Yerraballi, "Cobra: Fine-grained Malware Analysis using Stealth Localized-executions", *2006 IEEE Symposium on Security and Privacy*, Oakland, California, May 2006.
7. Amit Vasudevan and Ramesh Yerraballi, "SPiKE: Engineering Malware Analysis Tools using Unobtrusive Binary-Instrumentation", *The 29'th Australasian Conference in Computer Science*, January 2006.
8. Ashish Chawla, Ramesh Yerraballi and Amit Vasudevan, "Coalesced QoS: A Pragmatic approach to a unified model for KLOS", *International Joint Conferences on Computer, Information, System Sciences, and Engineering*, December 2005.
9. Amit Vasudevan and Ramesh Yerraballi, "Stealth Breakpoints", *The 21'st Annual Computer Security Applications Conference (ACSAC)*, December, 2005
10. Adetayo Aiyedun, Mentor: Ramesh Yerraballi, "Video on Demand Using Distributed Video Streaming", *McNair Research Journal*, The University of Texas at Arlington, Summer 2004, Vol. 8.
11. Amit Vasudevan and Ramesh Yerraballi, "A High Performance Kernel-Less Operating System Architecture", *The 28th Australian Computer Science Conference*, Jan-Feb 2005.
12. Ramesh Yerraballi and ByungHo Lee, "Distributed Video Streaming using Multicast", PCM 2004, *Fifth IEEE Pacific-Rim Conference on Multimedia*, Tokyo, Japan, November 30 – December 3, Proceedings: Lecture Notes in Computer Science.
13. Diane J. Cook, Manfred Huber, Ramesh Yerraballi, and Lawrence B. Holder, "Enhancing Computer Science Education with a Wireless Intelligent Simulation Environment", *Journal of Computing in Higher Education*, Fall 2004, Vol. 16(1), 106-107.
14. Amit Vasudevan and Ramesh Yerraballi, "An Instrumentation Framework for Operating Systems/Applications/Libraries", *The 2004 Hawaii International Conference on Computer Sciences,* Waikiki, January 2004.
15. Amit Vasudevan, Ramesh Yerraballi and Ashish Chawla, "KLOS: A High Performance Kernel-less Operating System", *The 24th IEEE Real-Time Systems Symposium, WIP Section,* Cancun, December 2003.
16. Ramesh Yerraballi, Xiaoru Zhao and Jasmin Kanabar, "A New Asynchronous Hybrid Mechanism for Video on Demand", *The 29th Euromicro Conference, Multimedia and Telecommunications Track*, Turkey, September 2003.
17. Ramesh Yerraballi and Farhad Kamangar, "Design of a Wearable Computing Environment for Distance Education in TeleCampus", *International conference on Internet Computing*, pp 285-291, Las vegas, June 2001.

13. David Levine, Sunil Pai, Farhad Kamangar, Ramesh Yerraballi, "A Multimedia Application using Mobile Agents for Establishing and Managing Streaming Audio Communications", *International conference on Internet Computing*", Las Vegas, June 2001.
14. Ramesh Yerraballi, "Real-Time Operating Systems: An Ongoing Review", *The 21st IEEE Real-Time Systems Symposium, WIP Section,* Orlando Fl, October 2000.
15. Ramesh Yerraballi, "Admission control mechanism for real-time channels: a sensitivity study", *The 6th Annual Australasian Conference on Parallel and Real-Time Systems*, Melbourne, December, 1999.
16. Ramesh Yerraballi and Ravi Mukkamala, "Routing and Admission Control of Real-Time Channels", *The 10th Euromicro Workshop on Real Time Systems*, Berlin,

Germany, July 1998.

17. Ramesh Yerraballi and Ravi Mukkamala, "Schedulability and Scalability of Periodic Job-Shop/Flow-Shop Jobs with End-to-End Deadlines", *The 18th ASEM American Society for Engineering Management National Conference Proceedings*, October 1997.
18. Ramesh Yerraballi and Ravi Mukkamala, "Scalability in Real-Time Systems with End-to-End Requirements", *The Journal of System Architecture: Special Issue on Real-Time Systems*, Volume 42, pp. 409-429, 1996-97.
19. Ramesh Yerraballi and Ravi Mukkamala, "Scalability based Admission Control of Real-Time Channels", *The 17th IEEE Real-Time Systems Symposium, WIP section*, Washington DC, December 1996.
20. Ion Stoica, Ravi Mukkamala Ramesh Yerraballi, and Florin Dobrian, "A Simple Ordered and Reliable Group Multicast Protocol"*, The 8th IASTED-ISMM Conference on Parallel and Distributed Computing Systems,* Washington DC, 1996.
21. Issues in Schedulability Analysis of Real-Time Sys-tems, R. Yerraballi, R. Mukkamala, K. Maly, and H. Abdel-Wahab, *The 7th Euromicro Workshop on Real Time Systems*, pages 87–92, June 1995.
22. Extending Schedulability Analysis in Distributed Real-Time Systems, R. Yerraballi, R. Mukkamala, H. A. Wahab and K. Maly. *The 6th IASTED-ISMM Conference on Parallel and Distributed Computing Systems*, Maryland, October 1994.
23. Semantics-based Replication in Distributed Real-Time Systems, R. Yerraballi, R. Mukkamala, H. A. Wahab and K. Maly., *Joint Conference on Information Sciences*, pp. 188-191, Pinehurst, North Carolina, November 1994.
24. A Prototype for Parallel Networks, joint paper with K. Maly et. al., *The Second IEEE Workshop on High Performance Communication Subsystems*, Williamsburg Virginia, 1993.
25. Parallel Communications: An Experimental Study, joint paper with K. Maly et. al., *The 3rd International Conference on Computers and Communications*, Phoenix, Arizona, 1993.
26. Parallel TCP/IP for Multiprocessor Workstations, with K. Maly et. al. *IFIP Conference on High Performance Networking*, Leige, Belgium, December 1992.
27. Parallelism for High Speed Networks, with K. Maly et. al. *IEEE workshop on the architecture and implementation of high performance communication subsystems*, February 1992.
28. Message Assignment Policies for High Speed Parallel Networks, with R. Mukkamala, et. al. *The 1st International Conference on Computers and Communications*, Phoenix, Arizona, 1992.

Selected Grants (Since Sept. 2000)

- Real-Time Bluetooth Networks – Shape the World, TI Grant $68K, with Jon Valvano 2015-16.
- Embedded Systems – Shape the World, UTAustinX, with Jon Valvano ($100k) – 2013-14.
- "MavHome Intelligent Home Environment", *NSF*, with Diane Cook et. al. ($1.6 mi) Award Duration: September 2001 – August 2004.
- "Educational Innovation: Integrating Intelligent Agent and Wireless Computing Research into the Undergraduate Curriculum", *NSF*, with Diane Cook et. al. ($329,915). Award Duration: January 2001 – December 2003.
- Honors College Grant for mentoring a student under a NSF funded program (LSAMP), $1000; I supervised a student (Jose Gonzalez) on his Honors Thesis on "Automating Network Management". Fall 2002 - Spring 2003.
- "MRI: Instrumentation for Intelligent Agent and Wireless Computing Research", *NSF,* with Diane Cook et. al. ($426,284), Award Duration: June 2001 – August 2004.
- "Wireless ATM for Mobile Multimedia Applications in Telemedicine", *REP* ($9,600). September 2000.

Professional Service

- Member of IEEE, ACM, UPE,ASEE.
- Faculty Advisor for Upsilon Pi Epsilon, UT Arlington. 1999-2002

- Served as a reviewer for the following: IEEE Trans. On Computers, IEEE Trans. On Communications, IEEE TPDS, PDCS, PART, RTSS, HPC.
- Publicity Coordinator for ACM WoWMoM 2000.
- Served as the department's Graduate Advisor since Summer 2001.
    - Helped improve the department's PhD numbers.
    - Administered the Hermann's and Dean Fellowship programs.

Committees and Public Service

- Student Feedback Survey committee to revise the CIS system and survey content – Spring, Summer and Fall 2019.
- Member of the 2017-18 and 2018-19 Teaching Awards Committee responsible for selecting all UT-wide awards for the academic year.
- Member of the ECE Curriculum Reform committee, Chair of the "Cohesion" sub-committee.
- Co-developed with Jon Valvano a highly successful EdX MOOC on Real-Time Operating Systems – Spring-Summer 2016
- Participated in the "Freshman VIP Admitted Students Day, 2016, 2018".
- Developed a free electronic instructional tool called "*YDraw*", used by the Center for Teaching and Learning (CTL) at UT and several teachers across the world.
- Participated in the ECE department Tech-Core night where students interact with faculty asking questions on career paths and course planning – Spring 2013,2014,2016
- Serve on the Lecturer Recruitment Committee for the ECE department at UT.
- Served on the ECE Department Chair Review Committee, chaired by Vice Dean Sharon L. Wood - 2013
- Proposed, developed and implemented the first faculty-led study-abroad program in the ECE department – Summer 2014, 2016.
- Co-developed with Jon Valvano a highly successful EdX MOOC on Embedded Systems – Summer 2013.
- Served as a Panelist at the Fall 2013 CTL orientation on Teaching for incoming faculty.
- Organized the department's programming teams and conducted the department programming contest. Served as the programming team coach at the Southeastern regional ACM programming competition - 1998
- Organized a High School Programming Contest at UT Arlington. Served as a Judge – 2006,2007
- Served as a Judge at the International Science Fair in Ft. Worth - 2007
- Wrote a free CreativeCommons licensed online Multimedia textbook

Students Supervised

(AT UT – Senior Design)

1. *Adaptive Filming System for a mobile phone*, by Milan, Ankith, Vikram, Harrison, Tommy, Akash.
2. *Fend*: A theft prevention system that prevents pickpocketing for travelers and commuters, by, Vidita Ashok Dixit, Kirtana Moorthy, Ziyue Zhang, Sonia Taneja, Jasmin Rajan. 2018
3. *Apollos*: A Robotic Lighting System, by Nicolás Chaim, Ryan Owen, Charles Sebesta, Chris Sebesta, William Watson, 2011
4. Mining finance articles to predict market sentiment, by Niraj Badhiwala and Adith Srinivasan, 2008.

(At UTA)

PhD Disseratations:

1. Amit Vasudevan, "WiLDCAT: An Integrated Stealth Environment for Dynamic Malware Analysis", Spring 2007. Currently a Post-doc at CyLab, Carnegie Melon University.

Masters Theses:

1. Ruchir Shende, "Towards Optimal Play-Out Buffering Delay in VoIP", (Spring 2006)
2. Rishi Jethwa, "Sabotaging Trusted Relationships: A Proposed Solution", (Fall 2005)
3. Shraddha Rumade, "Video on Demand using Distributed Streaming", (Summer

2005).

4. Amit Vasudevan, “SAKTHI: A Retargetable Dynamic Framework for Binary Instrumentation” (Fall 2003)
5. ByungHo Lee, “Distributed Video Streaming with Multicast” (Fall 2003)
6. Madhavi Vennavelli “Security Threats in Wireless Networks: A Proposed Solution” (Spring 2003)
7. Xiaoru Zhao “A New Asynchronous Hybrid Mechanism for Video on Demand” (Fall 2002)
8. Kamaljeet Maini “An MPLS Implementation Study”(Fall 2002)
9. Sushil Sharma “A Secure Encrypted Web Platform Enforcing RBAC Using Hierarchical Key Structure” (Spring 2001)
10. Nilesh Mandhare “Framework for Application Aware Adaptation in Mobile Computing” (Summer 2001)
11. Bassel Tabbara “An Implementation Methodology and Performance Analysis of Security Framework” (Spring 2001)
12. Ragaswamy Palikondan “A TDD Based MAC Protocol for Wireless ATM” (Summer 2001)
13. Swaroop Kalasapur “Component Based Framework for Conferencing Applications” (Summer 2001)
14. Prakash Tenneti “ABR Simulator for ATM: An Implementation Study” (Summer 2000)
15. Scott Witrock “Comparison and Evaluation of Switch Topologies for Gigabit Routers Currently Utilized by the Industry Leaders” (Fall 2000)
16. Venkatesh Dattathri “ATM VBR Service Class for Linux” (Summer 1999)

Masters Projects:

1. Chen Young “HOMETALK: A Speech Recognition Simulation for a Smart House” (Fall 2002)
2. Abhay Agnihotri “Review of Queue Management Techniques for Congestion Avoidance and Control” (Fall 2002)
3. Amudha Venkataswamy (Fall 2000)
4. Tom Ueltschi “Visualization of Internet Traffic” (Spring 2001)
5. Sumit Patel “Web Based Network Management using SNMP”(Summer 2001)
6. Jie Wen “Multi-tier Internet Electronic Mail System” (Spring 2000)
7. Elizabeth Joseph (Spring 2000)
8. Srinivas Jandhyala (Spring 2000)
9. Ravi Danda (Spring 2000)
10. Naresh Baliga “Annotation and Controller Components in DocuSave” (Summer 2000)
11. Rupali Sagare “Web-Reference for Programmers” (Summer 2000)
12. Kazi Islam (Summer 2000)
13. Gautham Swamy (Summer 2000)
14. Amarnath Gudlavalleti (Summer 2000)
15. Mossadique Moslem “Study and Evaluation of Dynamic Channel Allocation Algorithms in a Wireless Mobile Communication System” (Summer 2000)
16. Srinivas Jampana (Summer 2000)
17. Rajeev Nair (Summer 2000)
18. Velmurugan Rathnam (Summer 2000)
19. Anil Dara (Summer 1999)
20. Sreedevi Saladi (Fall 1999)
21. Mohammed Masud Khan “Location Management Algorithms in Mobile Wireless Network” (Fall 1999)
22. Selim Saifur “Optimal Location Management Technique in Mobile Systems” (Fall 1999)
23. Wei Wang (Fall 1999)

References Available on Request.