CURRICULUM VITAE
of
J. Mark Pullen

6 December 2018

EMPLOYMENT

George Mason University
Professor of Computer Science
Director, Center of Excellence in Command, Control, Communications, Computing, Intelligence and Cyber (C4I & Cyber Center)
September 2005-present

Assumed duties as Director, C4I Center. Teaching and research responsibilities remain as described below. Manage major efforts in Battle Management Language area (now called Command and Control-Simulation Interoperability or C2SIM), funded by and through the US Army, and oversee activities of Center faculty in C4I technologies and systems research; total funding about $5 million per year.

George Mason University
Professor of Computer Science
Director, Networking and Simulation Lab, C3I Center
September 1992-August 2005

As a faculty member in the GMU Department of Computer Science, teaching graduate and undergraduate courses in computer networking, directing graduate and undergraduate research courses including Master's and doctoral thesis research. As Director of the Networking and Simulation Laboratory in GMU's C^3I Center, conducting research in network protocols for multicast interconnection of distributed simulation and in network-based interoperation of multimedia systems and distributed simulations, including applications technologies in K-12 and university education, training, and military command and control. Developed Network Workbench, open-source software for academic simulation of Internet-style packet networks, with accompanying book *Understanding Internet Protocols* (Wiley, 2000); Principal Investigator of funded projects totaling over $13 million for the National Library of Medicine, National Science Foundation, Defense Advanced Research Projects Agency (DARPA), Defense Modeling and Simulation Office (DMSO), DoD Education Activity (DoDEA), and others. Actively publishing in the technical literature (over eighty publications since joining GMU). Active consultant in networking, distributed simulation, and military command, control, communications, computing, and intelligence (C4I). Leader in the Extensible Modeling and Simulation Framework (XMSF), aimed at using Web technologies to enable more effective distributed software interoperation. Associate Director of the C^3I Center. Service to the University on four committees including management of computing support for the School of Information technology and Engineering and for the Department of Computer Science, and to the IEEE in five different roles including IEEE-USA Vice President for Technology Policy Activities. Awarded the Harry Diamond Memorial Award in 1995 by the IEEE. Received tenure at GMU in 1996. Elected Fellow of the ACM, 2001. Promoted to full Professor, 2002. Winner of *2005 International Competition for Non-Commercial Web-Based Software Systems, Tools, and Products* for Network EducationWare (NEW) open-source software for synchronous Internet course delivery.

Defense Advanced Research Projects Agency (DARPA)
Advanced Systems Technology Office
Program Director, Distributed Simulation
April 1991-January 1993

Technical and managerial leader of four-person team responsible for program planning and execution in distributed warfighting simulation, a leading-edge activity designated "critical" by DoD that makes intensive use of computing and communications technologies, with annual budget of $40 million. Defined, justified, organized, and led advanced technology program that will permit DoD to retain and improve its warfighting edge while reducing budget and staffing levels. Personally managed development of the advanced multimedia worldwide data network and distributed system protocols required for this capability. Received the Defense Superior Service Medal for work done while in this position.

Defense Advanced Research Projects Agency
Information Science and Technology Office and Tactical Technology Office.
Deputy Director
June 1989 to March 1991

In each office, responsible for administration in support of about twenty technical professionals (with an equal number of support contractors) working at the cutting edge of information technology, overall budget in excess of $200 million. Also directly managed programs in high definition imaging systems, advanced networking and information technology applications, budget in $5 to $20 million per year range, specializing in difficult programmatic and political problems. Represented DARPA on the team that started the Federal High Performance Computing and Communications initiative. The change of offices was to meet a particular need for my background in military applications (tactical technology). Elected Fellow of the IEEE, 1990.

Defense Advanced Research Projects Agency
Information Science and Technology Office
Program Manager for Advanced Computing and Networking
September 1986 to May 1989

Built parallel computing within the Strategic Computing program to the point where it became a major basis for the Federal High Performance Computing and Communications initiative; phased out ARPANET in favor of a new generation of networking and spearheaded organization of a new megabit-per-second research network infrastructure that is known today as the Internet. Leader and charter member of the body that became the Federal Networking Council, and in developing plans for the National Research and Education Network that has today grown in concept to be the National Information Infrastructure (NII). Leader in founding Committee for Coordination of Intercontinental Research Networks (CCIRN) that developed what has become worldwide Internet connectivity.

United States Congress
House of Representatives
Committee on Science and Technology
IEEE Congressional Fellow
September 1985 to August 1986

Served on the staff of the subcommittee responsible for the National Science Foundation and the National Bureau of Standards (NBS, now NIST). Supported Members of Congress with advice and administrative work to organize hearings, draft legislation, etc. Work led to two important pieces of legislation, the Computer Security Act of 1987 and the alternative personnel system for scientists and engineers at NBS, credited by them as a major factor in maintaining technical viability in the face of diminishing competence in other government laboratories, including pilot program enabling flexible personnel management of government scientists and engineers.

U.S. Military Academy, West Point, New York
and IBM T.J. Watson Laboratory, Yorktown Heights, New York
Visiting Research Engineer
September 1984 to August 1985

At West Point, developed and prototyped a new parallel computer architecture, the Vector Associative Processor (VAP); as visiting engineer at IBM Yorktown Heights, designed and developed a four processor prototype for the IBM RP3 parallel computer.

U.S. Military Academy, West Point, New York
Department of Electrical Engineering
Instructor/Assistant Professor/Associate Professor
July 1981 to August 1984

Developed a new course for non-engineering majors, and led a four-person faculty group that team-taught about 500 students in this course. Organized and served as first counselor for IEEE Student Branch, and IEEE Computer Society Branch Chapter (the latter being run cooperatively with the ACM Student Chapter to provide critical mass in student activities). Organized half of department faculty to become registered as Professional

Engineers. Course led to change in West Point Curriculum, published paper, and designation as department nominee for William P. Clements, Jr. award for excellence in education. Participated in successful effort to gain ABET accreditation for department.

Northern Virginia Community College
Alexandria, Virginia
Instructor
September 1979 to June 1981

Taught half-time load in data processing, systems analysis, and computer programming while completing doctoral research.

Department of Defense Computer Institute
Washington, DC
Instructor and Course Manager
August 1976 to August 1979

Taught military and civil servants at undergraduate and graduate level in a DoD school noted for quality of presentation. Developed major portions of new courses in Systems Analysis and Information System Project Management.

U.S. Army 5th Signal Command
Worms, Germany
Electronics Engineer and Automation Staff Officer
October 1974 to July 1976

Served as staff manager of computer support activities for all US Army fixed telecommunications in Europe, and Project Engineer for repair parts support at over 400 sites. Created information management and command-wide repair parts management systems that reduced value of stocked parts by millions of dollars and resulted in halving of average time to meet need for repair parts.

U.S. Army 256th Signal Company
Munich, Germany
Operations, Logistics and Executive Officer
October 1972 to September 1974

Performed a variety of management roles (and at times, all of them at once) in fixed telecommunications system operation and maintenance for over 30 US Army radio, telephone switching, and digital message facilities in Southern Germany; improvement in operational readiness through logistics management was sufficiently significant that I was selected to do the same thing for the entire European theater.

West Virginia University
Computer Center
Research Consultant
June 1970 to June 1972

Assisted faculty researchers in areas of simulation and computer graphics and implemented electrical circuit simulations and system support software for graphics, while pursuing Master's degree. Taught programming classes and electrical engineering laboratories.

EDUCATION

D.Sc., Computer Science, The George Washington University, 1981
dissertation "An Architecture for a Database Machine Using Associative Pipelining"
advisor Simon Berkovich
M.S., Electrical Engineering, West Virginia University, 1972
thesis "Design of an Improved Circuit Analysis Program"
advisor Robert Swartwout
B.S., Electrical Engineering, West Virginia University, 1970

HONORS

Fellow of the ACM, 2001, "For contributions to information technology in transitioning the Internet from a Federal research project to commercial availability, and development of Internet distance education technologies."
IEEE Harry Diamond Memorial Award, 1995, "For designing and developing a worldwide network supporting distributed simulation and command control technology for the Department of Defense."
Defense Superior Service Medal, 1993, for "achievements in computer systems, networking, and simulation"; also 8 other military decorations of lesser importance
Fellow of the IEEE, 1990, "For technical leadership in computing systems and networking."

RESEARCH INTERESTS

My interests fall broadly into the area of distributed/networked multimedia computing. Within this area, my work ranges from distributed education and training technologies, through network protocols for multicast support of group communication, to software comprising the underlying network and simulation thereof. I am currently engaged in externally funded projects in two areas:

- Networked multimedia for distributed education and collaboration: The hard problem here is how to build systems that are most effective within the framework of group psychology for collaboration and learning and also work well over the evolving Internet. There was very little in the formal educational literature that deals with effectively distributing teaching and learning, so I have undertaken with some success to address it using a combination of good engineering practice and experimental application. The current explosion in technologies for distributed multimedia makes this a fruitful area for experimentation both in sponsored research and in courses taught at GMU, where I have pioneered low-bandwidth, real-time Internet desktop teaching for students at home and office, and created open-source software used by 21 GMU courses for this purpose.
- Interoperability in networked systems of systems: The issue here is how to achieve semantic consistency among systems that were not designed to interoperate, and do so quickly and efficiently. The specific software systems I've been funded to study are military command and control and simulation systems. The Mason C4I Center team that I lead has developed middleware software that enables interoperation of systems developed by various nations participating in the NATO Modeling and Simulation Group. An instance of six command and control systems from different nations interoperating with five simulation systems from different nations has been demonstrated, and the work continues to move forward. This inherently involves international collaboration and also has been the basis of industry support from Saab, MAK, and ESRI.

SPONSORED PROJECTS

It is my style in almost every project to work in a team. More often than not, I am the PI. In the list below any team members not working under my direct supervision are shown, and the fraction of funding which went to people and facilities at GMU is identified. I include subcontract personnel from A B Technologies in the GMU category in the period 1995-2001 because one or two of them generally worked under my close direction, alongside my graduate students and producing results attributed to my group.

"C2SIM Cyber," US Army Modeling and Simulation Office, 2017, $265,000, PI

"C2SIM Sandbox," NATO Collaboration Support Office, 2016-2018, $55,478

"C2SIM Open Standard," US Army Modeling and Simulation Office, 2016, $200,000, PI

"Expedite Second Generation C2SIM," US Army Modeling and Simulation Office, 2015, $150,000, PI

"ISBISS FY14", US Army Modeling and Simulation Office, 2014, $100,000, PI

"WISE-SBML Server Phase 3," Saab Corporation, 2014, $10,000, PI

"Academic PlugFest Pilot 2," Defense Intelligence Enterprise Environment, 2014, $87,678, PI

"Academic PlugFest Pilot," Defense Intelligence Enterprise Environment, 2013, $50,000, PI

"WISE-SBML Server Phase 2," Saab Corporation, 2013, $50,000, PI

"WISE-SBML Server Phase 1," Saab Corporation, 2012, $50,000, PI

"Geospatially Enabled Command and Control/Simulation Interoperation," US Army Modeling and Simulation Office and Simulation/C4I Program, 2012-2013, $170,000, PI

"WFPAC Performance Analysis," US Marine Corps Program Manager for Intelligence, 2012, $155,836, PI

"Integrated Standards-Based Interoperability Service Set for MSDL/CBML," US Army Modeling and Simulation Office, 2011-2013, $300,000, PI

"Battle Management Language Using C2Core," US Army CIO/G6, 2011, $140,000, PI

"RapidPro VIRT Collaborative Lifecycle Management," US Marine Corps PM Intelligence, 2010, $307,000, PI

"Battle Management Language Architecture," US Army CIO/G6, 2009, $280,000, PI

"Battle Management Language for Military Operations," US Army Simulation to C4I Program, 2008-2010, $700,000 (83% GMU). PI

"Integrated Battle Management Language," Army Engineer R&D Center (as subcontract to NBM Technologies), 2008-2009, $276,000 (100% GMU), PI

"Distributed Architecture for Geospatial Command and Control," Army Engineer R&D Center, 2007-2009, $502,000 (100% GMU), Task PI

"Joint Battle Management Language," Defense Modeling and Simulation Office, 2006, $438,491 (43% GMU), PI

"TEC-12: Terrain Reasoning: GeoBML," Army Engineer R&D Center, 2006, $948,646 (68% GMU), PI

"Private Overlay Multicast for Counter Threat Simulation," Defense Threat Reduction Agency, 2005-2006, $400,000 (68% GMU) partnered with NPS MOVES Institute, PI

"IPv6 QoS Simulation," Lockheed-Martin Corporation, 2005, $50,000 (100% GMU)

"Overlay Multicast Technology Evaluation," Defense Modeling and Simulation Office and US Joint Forces Command (as subcontractor to Virginia Modeling Analysis and Simulation Center), 2005, $120,000, PI

"Homeland Defense Exercise Command and Control Phase I," US Joint Forces Command (as subcontractor to Virginia Modeling Analysis and Simulation Center), 2004, $157,000 (100% GMU), PI

"XMSF Overlay Multicast and Standards Advocacy," Defense Modeling and Simulation Office, 2004, $320,000 (100% GMU), PI

"Experimentation Command and Control Interface," US Joint Forces Command (as subcontractor to Virginia Modeling and Analysis Center), 2004, $110,000 (100% GMU), PI

"XMSF-C4I Testbed," funded by Defense Modeling and Simulation Office, 2003-2005, $850,006 (16% GMU), PI. Other organizations in the project were Atlantic Consulting Services, Inc; Alion Science and Technology; and Virginia Modeling, Analysis and Simulation Center (VMASC) of Old Dominion University (ODU).

"Extensible Modeling and Simulation Framework," funded by Defense Modeling and Simulation Office and Defense Threat Reduction Agency through Naval Postgraduate School, 2002-2003, $275,000 (100% GMU), PI

"High Level Architecture RTI Enhancement Program," contract to Defense Modeling and Simulation Office as subcontractor to IITRI, 2002, $300,000 (100% GMU), PI

"Simulation and Analysis of Internet Quality of Service (QoS) Technologies," contract to OPNET Technologies Inc., 2001, $30,330 (100% GMU), PI

"Java-Based Distributed Simulation," subcontract under DTRA WHILCO contract to Cubic Corp., 2000-2001, $127,000 (100% GMU), PI

"Human Embryology Digital Library and Collaboratory Support Tools," NLM Contract N01-LM-0-3508, 1999-2002, $2,888,274 (36% GMU), PI

"Acquisition of a Superworkstation Cluster for Research and Teaching in Distributed Agent-Based Computing," NSF Grant EIA-9977471, 1999-2002, $639,762 ($305,688 NSF, $334,074 GMU matching) (100% GMU), PI

"Project InterActivate II: Middle School Mathematics," MDA410-99-C0005, from DoD Education Activity 1999, $659,800 (33% GMU), PI, subcontractor Shodor Foundation

"High-Performance Networked Training and C2 Study," SPAWAR N66001-95-D-8655 DO#8, funded by DARPA, 1999, $100,000 (100% GMU), PI

"Visible Embryo Project Planning," NLM 467-MZ-802347, Co-PI with George Michaels of GMU-CSI, $100,000 (100% GMU)

"George Mason University Request for High Performance Connection to the vBNS," NSF ANI-9818122, successfully obtained access to Internet2 vBNS, Co-PI with David Jensen, Edward Wegman, and Menas Kafatos

"Collaboration, Critical Thinking, And Networked Multimedia Systems," NRaD N66001-95-D-8655 DO#7, funding from DoDEA Presidential Technology Initiative (PTI), 1997-1998, $962,000 (13% GMU), PI for team of GMU and subcontractors Shodor Foundation, Fountain Communications, and University of Pittsburgh

"DoDEA Internet-Based Distance Education," NRaD N66001-95-D-8655 DO#4, funding from DoDEA-MIS, 1997, $37,000 (100% GMU), PI

"DoDEA Network Assistance Center Enhanced Analysis," NRaD N66001-95-D-8655 DO#4, funding from DoDEA-PTI, 1997-1998, $179,000 (100% GMU), PI

"CAETI Network Assistance Center," NRaD N66001-95-D-8655 DO#3, funding from DoDEA-MIS, 1997-1998, $187,000 (100% GMU), PI,

"How Can an Information Environment Support Higher-Order Thinking Skills?" NSF CDA-9616478, initially co-PI with L. Fontana, G. Tecuci, P. Loustauneau; 1996-1997 $446,777, 100% GMU, took over as PI when Fontana left GMU

"Simulation of QOSPF," E-Systems Internal R&D, 1996, $32,000 (100% GMU), PI, (this project also won MIL3 Inc. semi-annual award for Best University Project for myself, CS Master's student Lava Lavu, and EE Master's student Ravi Malghan)

"ModSAF Interface to COMPASS," SAIC Subcontract, funded by Defense Modeling and Simulation Office, 1996-1997, $50,000 (100% GMU), PI

"Tools for an Educational Internet," team of five GMU and subcontractor activities in advanced technology for networked K-12 education, ARPA CAETI Program, 1995-1997, $2,487,000 (86% GMU), PI and designated leader for all program participants in the Collaborative Applications for Project-Based Educational Resources area (about one fourth of CAETI program; projects totaled about $15 million, contractors included MIT, Stanford, Georgia Tech, Xerox Parc, and BBN Labs)

Augmentation award to "Multicast networks for Distributed Simulation," awarded under DoD Augmentation Awards for Science and Engineering Research Training program,1995-1998, $263,204 (100% GMU), PI

"Advanced Interfaces for Distributed Simulation," task within Defense Information Systems Agency/GMU C3I Center contract, sponsored by Defense Modeling and Simulation Office, 1995-1996, $268,000 (100% GMU), PI

"Multicast Networks for Distributed Simulation," task within Defense Information Systems Agency/GMU C3I Center contract, sponsored by Defense Modeling and Simulation Office, 1994-1995, $261,000 (100% GMU), PI

"Network-Based Instruction" (experimental use of the Internet for lecture distribution), GMU Zero-Based Curriculum Project provided $9,400 for equipment and TA/RA support (100% GMU), PI

"Simulation Interoperation Technology," task within Defense Information Systems Agency-GMU C3I Center contract, sponsored by Defense Modeling and Simulation Office, 1993-1994, $215,000 (100% GMU), PI

"Prototype Vector Associative Processor," one year release from teaching with $10,000 stipend for equipment, US Military Academy, West Point, NY, 1984-1985, PI

SERVICE

PROFESSIONAL SOCIETIES

Member, Armed Forces Communications-Electronics Association (AFCEA) Technology Committee, 2010-present
Vice President for Technology Policy Activities, IEEE-USA, 2000
Chair, IEEE-USA Committee to Review Government Fellows Activities, 1999
Chair, IEEE Technology Policy Council 1996 Symposium "Role of the Federal Government in Technology Development"
Vice Chair, Technology Policy Council, IEEE United States Activities, 1992-1997
IEEE Representative to Engineers' Public Policy Council , American Association of Engineering Societies (AAES), 1993-1996
Chair, IEEE Technology Policy Council 1994 Symposium "The NII: What Will It Be? How Will We Use It?"
Member IEEE-USA Engineering Research and Development Policy Committee 1986-1996
Member IEEE-USA Legislative Agenda Committee 1993
Chair, IEEE Engineering Research and Development Policy Committee, 1990-1991
Vice Chair, IEEE Engineering Research and Development Policy Committee, 1987-1989
Student Activities Chair, IEEE Mid-Hudson Section, 1993-1994

ACADEMIC

Member, Volgenau School of IT&E Distance Education Committee, 2008-2014
Chair, Naval Postgraduate School Computer Science Department External Review Committee, 2007
GMU Department of Computer Science Distance Education Coordinator, 2003-present
Member, GMU Distance Education Committee, 2003-2008
Member, GMU Provost's Advisory Committee on Global Research and Education, September 2001-August 2006
President, West Virginia University Academy of Computer Science and Electrical Engineering, 2001-2002; Vice President, 1999-2000
Director, GMU C^4I Center, September 2005-present
Associate Director, GMU C^3I Center, August 2001-August 2005
Member, GMU Information Technology Council, 2001-2004
Member, School of Information Technology and Engineering Promotion and Tenure Committee, 2000-2002
GMU Internet2 Applications Representative, 1998-2006
Chair, GMU CS Department Computing Committee, Fall 1993-Spring 2003; member, Fall 2003-Summer 2007
Member, GMU CS Department Systems Area Doctoral Examination Committee
Member, GMU School of Information Technology and Engineering Computing Committee, Fall 1993-Fall 2003
Presenter of major GMU demonstration "Distributed Education" for World Conference on Information Technology, 1998
Member, GMU Federal Relations Policy Advisory Committee, 1996-1998
Member, GMU Computer Science Graduate Committee, 1995-1997
Member, GMU Distance Education Task Force, 1995-1996
Manager of SITE Laboratory Computing Systems, May 1995-July 1996
Member, SITE Committee on Computer Engineering Program Curricula, Fall 1994-Fall 1995
Director, USMA West Point Summer Program for Gifted High School Students, 1985
Member, Instructional Methods and Technology Committee, USMA West Point, 1983-1985

TECHNICAL

Invited presenter, NATO Modelling and Simulation Lecture Series *Command and Control-Simulation Interoperability*, presented Fall 2015 in Fairfax, VA, Farnborough, UK, and Arcueil, France; Fall 2016 in Madrid, Spain and Rome, Italy; Fall 2017 in Canberra, Australia, Auckland, New Zealand and Sibiu, Romania
Co-Chair, Simulation Interoperability Standards Organization, Command and Control-Simulation Interoperability Product Development Group, 2014-present
Editor, special issue on Interoperability for Military Superiority, *Journal of Defense Modeling and Simulation*, September 2009
Co-chair, NATO MSG-138 Workshop *Command and Control-Simulation Interoperability*, 2014
Session chair, "eLearning/Educational Systems Design," *International Conference e-Society*, 2014
Program Committee Chair, AFCEA/GMU Symposium *Critical Issues in C4I*, 2008-2018
Member of Program Committee for 3rd IEEE International Conference on e-Science and Grid Computing, 2007
Reviewer for Winter Simulation Conference (ACM, IEEE, SCS and others) 2007

Reviewer for Consumer Communications and Networking Conference 2007
Reviewer for Winter Simulation Conference Modeling Methodology Track, 2006
Member of Program Committee, IASTAD Computers and Technology in Education Conference, 2005-2014
Member of DOE Advanced Scientific Computing Committee of Visitors, 2004
Reviewer for Society for Computer Simulation *Transactions*, 2003-2005
One of four partners developing the Extensible Modeling and Simulation Framework (XMSF) for Defense systems, 2001-2005
General Chair, IEEE International Workshop on Distributed Interactive Simulation and Real Time Applications, 2001; Co-Chair of Program Committee, 2000; Member of Program Committee and Session Chair, 1999-2009
Member of Program Committee and Session Chair for Web3D Symposium, 2003-2006
Reviewer for ASEE Annual Conference, 2002
Reviewer and Session Chair for IEEE/ASEE Frontiers in Education, 2001
Reviewer for IEEE Transactions on Education, 2001
Member of NSF Advanced Networking Infrastructure and Research Committee of Visitors, 2000
Member of NSF Network for Earthquake Engineering Simulation review panel, recruited for expertise in distributed simulation and networking, 2000-2001
Chair of NSF peer review panel, Special Projects in Networking and Communications, 1999
Member of Program Committee, Society for Computer Simulation Workshop, Communication Networks and Distributed Systems, 1999 and 2000; Session Chair 1999 and 2000
Reviewer for IEEE InfoCom'99
GMU Applications Representative for the Internet 2 program and Co-PI on GMU vBNS proposal
Member of Program Committee and Session Chair, IEEE ATM Workshop, 1998, 1999, 2000
Chair, DARPA Computer Assisted Education and Training Conference, June 1997
Member of Program Committee, Distributed Simulation Symposium, 1996-1997
Member Internet Research Task Force, Reliable Multicast Research Group, 1997-present
Member Internet Engineering Task Force, Large Scale Multicast Applications Working Group, 1996-1999
Member Internet Engineering Task Force, Quality of Service Routing Working Group, 1996-1998
Member of Ballot Resolution Committee for IEEE Standard 1278.2 "Distributed Interactive Simulation Communications Services," 1995
Member Distributed Interactive Simulation Working Group, Communications Architecture and Security subgroup, 1993-1997
Reviewer for journal *Information and Systems Engineering, 1995*
Reviewer for the journal *PRESENCE* issue on Networked Virtual Environments and Teleoperation, 1995
Session Chair, "Networked Virtual Reality," INET'94 (conference of the Internet Society)
Member Internet Engineering Task Force, Stream Protocol Working Group, 1993-1995
Member Defense Information Systems Agency/Advanced Research Projects Agency review panel of nationally-recognized experts in networking protocols, December 1993
Reviewer for *IEEE Transactions on Education*, 1989 and 2000
Reviewer for *IEEE Computer*, 1988-1991
Member of Technical Committee, IEEE International Conference on Computer Design, 1985
Session Chair, IEEE International Conference on Computer Design, 1984

MEMBERSHIP IN SOCIETIES / ORGANIZATIONS

Armed Forces Communications-Electronics Association (AFCEA)
Association for Computing Machinery (ACM)
ACM Special Interest Group on Communications (SIGCOMM)
ACM Special Interest Group on Computer Science Education (SIGCSE)
Institute of Electrical and Electronics Engineers (IEEE)
IEEE Computer Society
IEEE Communications Society
Internet Society
Internet Engineering Task Force
Society for Computer Simulation (SCS)
Simulation Interoperability Standards Organization (SISO)

RECOGNITIONS

Academy of West Virginia University Computer Science and Electrical Engineering
Department nominee for William P. Clements, Jr. award for excellence in education, US Military Academy
Eta Kappa Nu electrical engineering honor society
Finalist for George Mason University Teaching Excellence Award, AY 1999-2000
Leader in group awarded NATO Scientific Achievement Award for command and control-simulation interoperation
Phi Beta Delta international academic honorary society
Phi Kappa Phi academic honor society
Who's Who in the South and Southwest
Who's Who in the Media and Communications

LICENSURE STATUS

Licensed Professional Engineer in Virginia and West Virginia

COURSES TAUGHT

GEORGE MASON UNIVERSITY, FAIRFAX, VIRGINIA

Web Applications Rapid Prototyping, project course for undergraduates, Fall'16.
Open Source Common Map API Implementation, project course with 6 undergraduates, Spring'14
Advanced Network Protocols, Advanced master's/Doctoral-level elective, Fall'07
Networked Virtual Environments, Advanced master's/Doctoral-level elective, Spring'14, Fall'12, Spring'11, Spring '09, Spring'07, Spring'06
The Internet as a Resource for the Engineer, distributed professional education for IEEE, Fall'00, Spring'01
Network Science II, Interdisciplinary Master's-Level Elective, Spring '07, Spring'05, Spring'03, Fall'99, served as organizer and team-taught
Network Science I, Interdisciplinary Master's-Level Elective, Fall'02, Spring'99, served as organizer and team-taught
Data Communications/LANS and Wide-Area Network Protocols, Network Science Certificate Pilot, Spring '98 (also organized this course, which is distributed professional education taught by six GMU faculty)
Performance Analysis of Computer Networks, Master's/Doctoral-level elective, Spring'16, Spring'13, Fall'10, Fall '08, Fall '06,Spring '00, Spring'98, Spring '94
Computer Communications and Networking, Master's-level comprehensive introduction, Fall'16, Fall=15, Spring'15, Fall'12, Fall'11 (two sections), Spring'10, Fall'07, Spring'04, Fall'02, Summer'02, Summer '99, Spring '99, Fall'97, Fall'96, Spring'96, Spring'95, Spring'94
Computer Networking Systems, Senior-level comprehensive introduction, Spring'17, Spring'16, Fall'15, Spring'14, Fall'09, Fall'07, Fall'03, Fall'01, Spring'01, Fall'00, Fall'99, Fall'98, Spring'97, Fall'96, Fall'95, Fall'92
Introduction to Telecommunications Systems, Master of Arts in Telecommunications core, Summer'95, Summer'94
Language Processors and Programming Environments, Senior core, Spring'93

NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIFORNIA

Networked Virtual Environments, graduate elective, Spring'09, Spring'08, Spring'06, Spring'04, Spring'03 (lectures recorded in Network EducationWare and also used as a basis for Old Dominion University graduate elective with the same title)

US MILITARY ACADEMY, WEST POINT NEW YORK

Parallel Computer Architecture, Senior elective, Spring'85
Electrical Engineering Systems, Junior core, Spring'84, Fall '83, Spring'83 (Course Director)
Basic Electrical Engineering, Junior core, Fall'82, Spring'82, Fall'81

NORTHERN VIRGINIA COMMUNITY COLLEGE, ALEXANDRIA, VIRGINIA

Structured Programming in PL/I, Sophomore elective, Spring'81, Fall'80
Systems Analysis, Sophomore core, Spring'81, Fall'80, Spring'80
Introduction to Data Processing, Freshman core, Spring'80, Fall'79

DEPARTMENT OF DEFENSE COMPUTER INSTITUTE, WASHINGTON, DC

Information System Project Management (25% of two-week graduate level short course), about 8 offerings 1978-79
Systems Analysis (35% of one-week graduate level short course), 24 offerings 1977-79, Course Manager 1978-79
Computer Performance Evaluation (10% of one-week graduate level short course), 6 offerings 1977-78
Introduction to Teleprocessing (20% of one-week graduate level short course), about 10 offerings 1978-79
Introduction to Computer Technology (20% of two-week graduate level short course), about 20 offerings 1976-79

PUBLICATIONS

PLEASE NOTE

- The nature of my work in the Department of Defense from 1972 to 1992 was such that I was generally not expected to publish and, in some assignments, required *not* to publish my work. Therefore most of the technical papers listed below date from after my joining the GMU faculty late in 1992.

- Please see Research Interests above for a summary of the major threads in my recent work.

REFEREED JOURNAL PAPERS
(all peer reviewed)

Published Papers

Pullen, J.M. and J. Chen, Distributed Application Launching for High Quality Graphics in Synchronous Distance Education, *ACM Special Interest Group on Computer Science Education (SIGCSE) Bulletin,* Vol 40 No. 3, pp 204-208, 2008

Pullen, J.M. and C. Snow, Integrating Synchronous and Asynchronous Internet Distributed Education for Maximum Effectiveness, Educational and Information Technologies (2007) 3, pp 137-148, Springer, New York NY

T. Zhou, J.X. Chen, and J.M. Pullen, Generating Accurate Depth Effects in OpenGL, Computer Graphics Forum, Vol. 26 No. 1, pp.15-23, 2007

Pullen, J.M., Scaling Up a Distance Education Program in Computer Science, *ACM Special Interest Group on Computer Science Education (SIGCSE) Bulletin,* Vol 38 No. 3, pp 33-37, 2006

Snow, C., J.M. Pullen and P. McAndrews, An Open-Source Web-Based System for Synchronous Distance Education, *IEEE Transactions on Education*, Vol.48 No. 4, pp 705-712, 2005

Pullen, J. and P. McAndrews, Low-Cost Internet Synchronous Distance Education Using Open-Source Software*, ASEE Computers in Education Journal*, Vol 25 No 5, 2005

Pullen, J., R. Simon and P. McAndrews, An Online Graduate Computer Science Program Delivered Via Simulteaching, *Advanced Technology for Learning* Vol 2 No 3 pp 148-155, 2005, ACTA Press, Calgary AB

Pullen, J.M., and P. McAndrews, A Web Portal for Open-Source Synchronous Distance Education, *Advanced Technology for Learning* Vol 2 No 1 pp 9-15, 2005, ACTA Press, Calgary AB

Pullen, J.M., R. Brunton, D. Brutzman, David Drake, Michael Hieb, K. Morse, and A. Tolk, Using Web Services to Integrate Heterogeneous Simulations in a Grid Environment, *Future Generation Computer Systems* Vol 21 No 1 pp 97-106, 2005, Elsevier

Sudnikovich, W., M. Kleiner, S. Carey, and J.M. Pullen, Extensible Battle Management Language as a Transformation Enabler, *SIMULATION: Transactions of the Society for Modeling and Simulation International* Vol 80 No 12 pp 669-680, special issue on Military Simulation Systems and Command and Control Systems Interoperability, December 2004

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"C2SIM Functionality Can Contribute to ASDL," AIAA SciTech 2017 conference, Grapevine, TX, January 2017

"Command and Control-Simulation Interoperation" (as part of international team of 5), NATO Lecture Series presented Fairfax, VA September 2015; Farnborough, UK and Paris, France October 2015; Lillestrom, Norway September 2016; Rome, Italy and Madrid, Spain November 2016; Canberra, Australia and Auckland, New Zealand September 2017; Sibiu, Romania October 2017

"C2SIM History and Status" (with R. Wittman), NATO Computer-Assisted Exercise Forum, Munich, Germany, September 2016

"C2-Simulation Interoperability (C2SIM)", NATO Joint Warfare Center, Stavanger, Norway, June 2016

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