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CURRENT AFFILIATIONS

Professor and Department Chair
Chair, IT Faculty Cluster
Visiting/Adjunct Professor

DISCS, Ateneo De Manila University
Ateneo Graduate School of Business
Department of Computer Science, Virginia Tech

AREAS OF EXPERTISE

Information Systems Consulting
Software Development (Database Systems, Java, C, C++)
Training, Research, and Development in Computer Science—Areas of Specialization: Software Engineering, Object-Oriented Systems Development, Algorithms, Bioinformatics.

EDUCATION

- Ph.D. Computer Science and Applications, 1997
Virginia Tech—Virginia Polytechnic Institute and State University
(Blacksburg, Virginia, U.S.A)
Graduate Student Award Recipient: Scholarly Performance in Graduate Study
- M.S. Computer Science and Applications, 1990
Virginia Tech
- B.S. Mathematics/Computer Science, 1986
Ateneo de Manila University
Dean's List (5 semesters), NSTA Scholar
- Philippine Science High School, 1982

HONORS AND AWARDS RECEIVED

- 2001 Outstanding Young Scientist
July 2001 National Academy of Science and Technology
Republic of the Philippines
- DuPont Miracles of Science Award
July 2001 DuPont Far East, Inc., Philippines
- Scholarly Performance in Graduate Study
May 1997 Department of Computer Science
Virginia Tech, Virginia, U.S.A.

ACADEMIC POSITIONS HELD

DISCS (formerly CS Program), School of Science and Engineering, Ateneo De Manila University

- Department Chairman April 2008 to present
- Professor April 2006 to present
- Associate Professor April 2000 to March 2006 (sabbatical leave 2003-04)
- Department Chairman April 1998 to March 2002
- Assistant Director June 1997 to March 1998
- Assistant Professor April 1997 to March 2000
- Officer-in-Charge April 1993 to June 1993
- Instructor June 1991 to March 1997 (study leave 1994-97)
- Assistant Instructor April 1986 to August 1988

Graduate Program Division, Ateneo Information Technology Institute (formerly ACTC)

- Associate Director July 2001 to March 2006
- Lecturer June 1997 to present
- Program Coordinator June 1991 to October 1993
- Program Coordinator October 1997 to March 2001

Ateneo Graduate School of Business

- Cluster Chair for Information Technology August 2005 to present

Department of Computer Science, Virginia Tech

- Visiting/Adjunct Professor January 2008 to May 2008
- Visiting/Adjunct Professor June 2003 to May 2004
- Visiting/Adjunct Professor May 2001 to July 2001
- Visiting/Adjunct Professor May 2000 to July 2000
- Visiting/Adjunct Professor May 1999 to July 1999
- Instructor July 1994 to December 1996
- Graduate Teaching Assistant January 1989 to May 1991

CONSULTING ENGAGEMENTS

- Consultant, CARANA Corporation/Bureau of Internal Revenue (BIR)
January 2008
 - Assisted the BIR in the process reengineering of filing and payment processes
- Lead Consultant, Economic Policy Reform and Advocacy (EPRA) /
Bureau of Internal Revenue (BIR)
June 2007 to November 2007
 - Assisted the BIR in the process reengineering of filing and payment processes
- Consultant/Subject Specialist for Information Technology, EPRA / BIR
January 2007 to July 2007
 - Provided technical oversight and review on ICT projects
- Consultant, CARANA Corporation / Bureau of Customs
March 2007 to May 2007
 - Developed a rewards framework for performance management
- Consultant/Team Leader, AIM SRF / Land Transportation Office (LTO)
April 2006 to October 2006
 - Assisted the LTO in the process reengineering of vehicle registration transactions
- Consultant/Systems Integrator, CARANA Corporation / Bureau of Internal Revenue
April 2006 to June 2006
September 2006 to present
 - Managed the design and development of an information system for performance management for the BIR
 - Developed a rewards framework for performance management
- Consultant, INQ7 Interactive Inc
August 2005 to November 2005
 - Managed the development of web-based modules for the administration of content (stocks, currencies, weather, ads, and polls) for inq7.net.
- Consultant/Systems Integrator, CARANA Corporation / Bureau of Internal Revenue
April 2005 to October 2005
 - Managed the design and development of an information system for performance management in the Large Taxpayer Service of the BIR
 - Developed a rewards framework for performance management
 - Served as officer-in-charge of the performance management system project
- Consultant, Change Consultants, Inc. / National Anti-Poverty Commission (NAPC)
May 2003 to June 2003
 - Assisted the National Anti-Poverty Commission in the reengineering of its processes
- Consultant/Systems Integrator, Development Alternatives, Inc. / Bureau of Internal Revenue
November 2001 to May 2003
 - Assisted the BIR in the reengineering of its tax administration processes
 - Assisted the Commissioner and the BIR in the evaluation of IT-related projects

- Research and Development Consultant, Pygmalion Software Corporation
June 1997 to May 2003
 - Developed Application Program Generators (in C and Java) for Informix-NewEra, Microsoft Visual Foxpro, and Oracle, for a Fund Management System
 - Conducted Research and Presentations on Business Processing Models Using INCOME Software
- Systems Consultant, Financial Software Technologies / Bureau of Treasury
February 2000 - April 2000
 - Designed and developed a Bid Server Interface (in Java)
- Systems Consultant, SmithKline Beecham Philippines
March 2000
 - Designed and developed a Budget Management System
- Systems Consultant, Marketing Group, BPI Family Bank
August 1997 to December 1999
 - Designed and developed a Budget Management System
 - Designed and developed several Customer Monitoring Systems
- Systems Consultant, Financial Software Technologies, Inc.
April 1999
 - Developed a Report Formatter for Stock Certificate Printing (in Informix 4-GL)
- Systems Consultant, Searle
May 1998
 - Developed an interactive Question-and-Answer Computer Game (in Java)
- Consultant/Lecturer, American International Underwriters Corporation---RDC
January 1997
 - Conducted Training on “Object-Oriented Systems Development”
- Consultant/Lecturer, AxSys Philippines Inc.
August 1996
 - Conducted Training on “Relational Database Design”
- Systems Consultant, Pygmalion Software Corporation
May 1995 to August 1995
 - Developed Menu and Report Program Generators (in C) for Informix-4GL
- Consultant/Lecturer, AxSys Philippines Inc.
August 1995
 - Conducted Training on “Object-Oriented Systems Development”
- Consultant/Lecturer, Strategic Partners International
June 1995
 - Conducted Training on “Object-Oriented Database Design”
- Systems Consultant, Sara Lee Philippines Inc.
July 1993 to August 1993
 - Developed a Menu System and a Menu Generator (in C) for Progress-4GL
- Systems Consultant, RCT International (Chicago, Illinois, U.S.A.)
June 1992 to August 1993
 - Conducted a system study and managed a team that developed a prototype for a Travel Consolidation System (in Progress-4GL)

- Systems Consultant, United Automation/San Miguel Corporation
June 1991 to December 1993
 - Designed and developed a Stock Transfer System (in Informix-4GL)

- Systems Consultant, La Campana Fabrica de Tobaccos
November 1991 to March 1992
 - Conducted a system study for the company's Manufacturing, Sales, and Marketing Departments

- Systems Consultant, Fasttrack - Consumer Access Technology
December 1991 to August 1994
 - Designed and developed several Consumer Monitoring Systems

COURSES TAUGHT

- DISCS, Ateneo De Manila University
 - Introduction to Computing (Pascal, C, Java)
 - Introduction to Software Engineering
 - Data Structures and Algorithms
 - Automata and Formal Languages
 - Combinatorics and Graph Theory
 - Database Systems
 - Object-Oriented Systems Development
 - Computer Graphics
 - Computational Complexity
 - Methods of Research
 - Introduction to Bioinformatics
 - Cryptography and Network Security
 - Artificial Intelligence
 - Programming Languages and Paradigms
 - Introduction to Data Mining
 - Theory of Computation

- Information Technology Cluster, Ateneo Graduate School of Business
 - Business Intelligence for Managers

- Graduate Program Division, Ateneo Information Technology Institute
 - Java Programming and Object-Oriented Languages
 - Theory of Algorithms
 - Compiler Design
 - Organization of Databases
 - Programming Paradigms
 - Object-Oriented Programming

- Department of Computer Science, Virginia Tech
 - Introduction to Computer Science
 - Programming in Pascal
 - Programming In C/C++
 - Operating System Tools (Windows and FreeBSD Unix)
 - Object-Oriented Software Design and Construction
 - Data Structures and File Management
 - Introduction to Programming in Java
 - Data Structures and Object-Oriented Development

LECTURES AND TALKS GIVEN

- “Monte Carlo Simulation”, presented at the Seminar-Workshop in Computational Finance, Ateneo de Manila University, December 2007.
- “On Linear Extensions of Posets”, presented at the Algorithms and Combinatorics Conference 2006, Ateneo de Manila University, April 2006.
- “Graph Algorithms and Computational Biology”, presented at the Philippine Science High School Foundation Week, PSHS, September 2005.
- “Bioinformatics from the Computational Point of View”, presented at the 24th NAST Annual Scientific Meeting, Manila Hotel, July 2002.
- “Bioinformatics”, presented at the Science Information Forum of the National Academy of Science and Technology, Ateneo de Manila University, September 2001
- “Introduction to Bioinformatics”, presented at special seminars in Ateneo De Manila University and University of the Philippines, February 2001
- “Genetic Algorithms”, presented at the Seminar on High Performance Scientific Computing, Ateneo De Manila University, September 2000.
- “A Practical Approach to Designing and Implementing Object-Oriented Applications”, presented at a seminar conducted by PSSI, Heritage Hotel, Manila, March 1999.
- “Mathematics in Computer Science”, presented at the Mathematics Teachers Association of the Philippines-DECS NCR Convention and Seminar-Workshop, Stella Maris College, October 1998.
- “Developing Windows-based and Web Solutions in Java”, presented at Microsoft Developer Days '98, Dusit Hotel, Makati City, September 1998
- “Linking IT Education with Industry and the World of Work”, presented at the Bikol Foundation for Higher Education Annual General Assembly, Colegio de Santa Isabel, Naga City, August 1998
- “Strategies for IT Curriculum Development”, presented at the PSITE First Monthly Membership Meeting, ACEED Conference Center, Makati City, April 1998.
- “Freshman Java: Incorporating Object Technology in Undergraduate Computer Science Curricula”, presented at the 9th Information Technology Week, University of the East, February 1998.
- “How Far are Humans from Mice—Unraveling the Tangles of Evolution”, presented at the Virginia Tech CS Seminar Series, Virginia Tech, April 1996.

CONFERENCE PAPERS

- “Automated Image Analysis for Microarray Experiments”, presented at the 1st Annual Bioinformatics Conference and NIMBUS Convention, IRRI, Los Banos, October 2004.
- “Sorting By Short Swaps”, presented at the DLSU Computing Conference 1999, De La Salle University, December 1999.
- “Computational Problems and Algorithms in Molecular Biology”, presented at MODEL '99— Workshop and Conference on Modeling, Simulation, and Scientific Computing, Ateneo De Manila University, November 1999.
- "Edge-packing Planar Graphs by Cyclic Graphs", presented at the Eighth SIAM Conference on Discrete Mathematics, Johns Hopkins University, June 1996.
- “Sorting by Bounded Block-moves”, presented at the Computational Biology Conference to honor the 50th Anniversary of ENIAC, Princeton University, May 1996.
- “Subsequence and Run Heuristics for Sorting by Transpositions”, presented at the Fourth DIMACS Algorithm Implementation Challenge, Rutgers University, August 1995 (Joint research with S.A. Guyer and L.S. Heath).

RESEARCH PUBLICATIONS

- L.S. Heath and J.P. Vergara, “Sorting by Short Swaps”, *Journal of Computational Biology* 10:5 (2003), 775-789.
- P.I. Echevarria, J.C. Punzalan, J.P.Vergara, “Microarray Image Analysis Program”, *Loyola Schools Review* 2 (2003), 1-14.
- L.S. Heath and J.P. Vergara, “Sorting by Short Block-moves”, *Algorithmica* 28 (2000), 323-352.
- L.S. Heath and J.P. Vergara, “Edge-packing Planar Graphs by Cyclic Graphs”, *Discrete Applied Mathematics* 81 (1998), 169-180.
- L.S. Heath and J.P. Vergara, “Sorting by Bounded Block-moves”, *Discrete Applied Mathematics* 88--- Special Issue on Computational Biology (1998), 181-206.
- L.S. Heath and J.P. Vergara, “Edge-packing in Planar Graphs”, *Theory of Computing Systems* 31 (1998), 629-662.
- J.P. Vergara, “Mathematical Induction in Computer Algorithms”, *Matimyas Matematika*, 16:3 (1993), pp. 18-29.
- A. D. Del Rosario and J.P. Vergara, “A PC-Based Text Retrieval System”, *Proceedings of the South East Asian Regional Computer Conference*, Bali, Indonesia, December 1991.

MISCELLANEOUS

- Coach, Ateneo ACM Programming Team, 2004-2007
- Rapporteur, 24th NAST Annual Scientific Meeting, 2002
- Member, Task Group on Faculty Development (2002), Commission on Higher Education
- Finals Judge, Fourth Philippine Web Awards, 2001
- Member, Outstanding Young Scientists, Inc.
- Member, Computer Science Honor Society (Upsilon Pi Epsilon), Virginia Tech Chapter.
- Member, Association for Computing Machinery
- Member, Institute of Electrical and Electronics Engineers
- Member, Information Technology Technical Panel, DOST-Philippine Council for Advanced Science and Technology
- Member, Board of Judges, 1999 PCASTRD Outstanding R&D Award in Advanced Science and Technology
- Director and Faculty Development Committee Chair, Philippine Society for Information Technology Education (PSITE), 1998-1999.
- Referee for the following journals:
 - Discrete Applied Mathematics
 - Information Processing Letters
 - International Journal of Foundations of Computer Science
 - Journal of Algorithms
 - Journal of Parallel and Distributed Computing
 - Journal of Theoretical Computer Science
 - Loyola Schools Review