

Maria Vicente Atas Bonto-Kane

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JOB OBJECTIVES I am seeking a full-time permanent position related to my skill areas:

- Research and development using datamining and machine learning applications
- Design/development of intelligent user interfaces , context-aware applications, mixed initiative user interaction,
- Design and usability evaluation of software/hardware products and automated/robotics equipment
- Research and development for Human Systems Integration (HSI)

EDUCATION

PhD in Computer Science (2010)

North Carolina State University, Raleigh

M.S. in Computer Science (1998, SPIR Fellowship Grantee)

State University of New York in Binghamton

M.A. in Psychology (Fulbright-Hayes Scholarship grantee)

State University of New York in Binghamton

B.A. in Psychology (Dean Galdon Scholarship grantee)

Ateneo de Manila University, Philippines (Jesuit university)

SECURITY CLEARANCE: US Citizen, Secret Clearance (US DoD: March2009-March2019; US DoHA:July2007-July2017)

WORK EXPERIENCE

NAVAIR, Dept. of the Navy, MCAS Cherry Point, NC

Computer Scientist (Oct 2008 - Oct 2009)

- Provided software support for the C130, H46, and V22 Tiltrotor aircraft (C, C++, HTML, Perl, VBasic)
- Did datamining and engineering analyses of C130 and H46 flight data for maintenance, safety, and reliability
- Developed a process for the difficult work of decoding binary aircraft data stored in RMM modules
- Interfaced with military/civilian/air crew personnel for requirements, field and laboratory testing and troubleshooting of aircraft equipment (MFDs) and navigation software (CDNUs) for the C130 and H46

Knowledge Discovery Laboratory, North Carolina State University

Research Assistant (Jan 2006 - Sep 2008)

- Did research in human computer/machine interaction with High Throughput Screening laboratory software
- Did formal models of user usage patterns and optimization of a user interface
- Extensive knowledge of SAS techniques for analyses, datamining, and modeling work
- Work became the basis for dissertation research and conference presentations
- Project was funded by National Science Foundation (NSF) and work on robotic systems was a joint collaboration with Center for Life Sciences and Automation (CELISCA) in Rostock, Germany

Computer Science Department, North Carolina State University

Teaching Assistant (Fall2004-Fall2005; Fall2008)

Courses: *Human Computer Interaction, Discrete Mathematics, Programming Languages*

- Consulted with students, graded homework/exams, did substitute lectures and exam review sessions

Oak Ridge National Laboratory, Oak Ridge, TN

Graduate Research Intern, Cyber Security and Information Intelligence Research Group (Jun-Sep2008)

- Participated in research vital to homeland security and national defense
- Developed a tool for pattern recognition in time-series data using machine learning algorithms

Qualcomm, Raleigh, NC

Programmer Coop (Sep-Dec2008)

- Developed code for business/web-based applications using ObjectPerl, AJAX and XML

L3-Com/D.P. & Associates (Defense Contractor), Jacksonville, NC

Lead Programmer (Aug 2002-Dec 2007)

- Developed applications in MS SQL/MS Access, .NET, C, C#, VBScript, JavaScript, HTML
- Provided software support for pilot and aircrew CBT training for V22 Tiltrotor aircraft
- Coordinated with military, civilian, and government teams based in MCAS New River (Marines), Cecil Field FL (Navy), and Kirtland AFB Albuquerque, NM (Air Force) for curriculum and software requirements
- Initiated an internship program that resulted in hiring more affordable but highly qualified and skilled computer programmers from nearby universities
- Supervised 2 junior programmers

Institute of Computer Science, University of the Philippines Los Baños, Philippines

Assistant Professor (Nov 1999 - Apr 2002)

- Taught undergraduate and graduate courses: *Compiler Theory, Information Retrieval, Software Engineering, Programming Languages, Introduction to the Internet, Internet Programming* (using HTML, XML, CSS, XSLT, VBScript, JavaScript, Perl and CGI programming).
- Research adviser for Computer Science undergraduates for senior design projects

Institute of Computer Science, University of the Philippines Los Baños, Philippines

Coordinator, Computer Training Division (April 2000 - Apr 2002)

- Hired instructors, developed curriculum, put together course materials for courses like: HTML, XML, MS Office suite of applications, CGI Programming using Perl, VBScript, and JavaScript
- Extended our courses to on-site training for companies like Aventis to provide for their training needs
- Marketed departmental talent and resources for the IT needs of local businesses

Institute of Computer Science, University of the Philippines Los Baños, Philippines

Coordinator, University Open Computing (Jun 2000 - Apr 2002)

- Initiated and established the University Open Computing Services to extend computing services and resources to university personnel and students
- Formed a group of Computer Science undergraduate students who supplied expert consulting services as well as manpower to help maintain and troubleshoot computer laboratory equipment
- This initiative provided a service to the university, gave select computer science undergraduates real work experience, and generated revenue for the department

Document Automation and Production Services, Defense Logistics Agency, MCAS Cherry Point, NC

Systems Analyst (Jul 1998 - May 1999)

- Was an all-around “guy” and did combined work of systems analyst, programmer and network administrator
- Provided web/multimedia publishing, digital conversion/archiving of documents, printing/duplication
- Addressed client needs for document reproduction and digitization; even optical character recognition of text
- Did inventory and purchase of specialized software and multi-volume scanner/copier/reproduction equipment
- Assembled copier, printer, CD duplicator, and scanner equipment for access in a local area network (LAN) and wide area network (WAN) (e.g., submitting DoD articles in Cherry Point, NC for printing in Tallahassee, FL)
- Coordinated 4 offices: Cherry Point, Camp Lejeune, Camp Johnson, and Seymour Johnson AFB Goldsboro

Endicott Johnson Corporation (MIS Department), Binghamton, NY

Programmer Contractor (Jul 1998 - Dec 1999) ***Graduate Intern*** (Aug 1997 - May 1998)

- Involved in the assessment of information requirements for each department
- Helped in the migration from a mainframe based IBM 360 to an IBM RISC 6000 client-server environment
- Developed a program to retrieve employee records from the mainframe to the SAP Accounting application
- Developed software components to integrate third party commercial software to in-house software
- Work became basis for my Masters thesis project and paper presented at ACM OOPSLA'98 conference

IBM Corporation, Research Triangle Park, NC

Human Factors Engineer (intern) (Feb 1995 - Aug 1996)

- Involved in design and usability evaluation of software (i.e., workflow, user interface, online help), hardware products (i.e., ISA, PCI, ATM, and PCMCIA network cards), documentation, and user manuals.
- Was given a departmental award for improving network card user documentation and minimizing costs
- Developed a functional prototype of a wireless modem application (PCMCIA card) which became the specifications for final product development; this effort achieved a departmental award
- Did research on handwriting recognition technologies (i.e., IBM's Diamond Writer, Apple-Newton, smARTwriter) and soft keyboard entry, the results of which were published in a technical journal and presented at professional conferences; this effort also received a departmental award

IBM Corporation, Owego, NY

Programmer – Mainframe systems (intern) (Jun 1992 - Jan 1994)

- Developed database applications on the VM/CMS mainframe system for Payroll and Human Resources dept.
- Involved in developing applications for the US Postal Service; all mainframe applications were written in REXX
- Was part of the team that developed mainframe applications that won an IBM Excellence Plus QIT award
- Created a prototype of a PC terminal emulator for a VM/CMS database application (EASEL Workbench)

IBM Corporation, Charlotte, NC

Human Factors Engineer (intern) (Jan 1991 - May 1992)

- Involved in the usability evaluation of software (PC and mainframe applications) and hardware products (microcode reader, signature reader, printer).
- Worked with my supervisor who designed paper-pencil prototypes of Consumer Transaction 2 (CT/2), IBM's commercial banking application. My job was to translate paper pencil prototypes into a functional prototype using EASEL Workbench ; the functional prototype came to a total of 12 floppy diskettes (12.3 MB).
- Conducted research of on -screen displays and components of the graphical user interface; one research on the evaluation of graphic icons was presented at an IBM International Human Factors conference in Canada.

PUBLICATIONS

Textbooks

- 2003 **Web Information Systems** (textbook for the graduate course IS 226-Web Information Systems) by Concepcion Khan and Marivic A. Bonto-Kane, **University of the Philippines, Los Banos**

Technical Journals

- 2009 **Computational Modeling Approaches Help Guide Early Design Efforts for Usability**
by Maria Vicente A. Bonto-Kane and Robert St. Amant
ACM Tapia Conference Proceedings, April, 2009 (ISBN:978-1-60558-217-7).
- 2007 **Pervasive 2007: It's About the User**
by Maria Vicente A. Bonto-Kane, Alvin Chin, Sheila McCarthy, Mayuree Srikulwong, and Paul J. Timmins
IEEE Pervasive Computing, Vol. 6, No. 4, pp 95-97. (October-December, 2007)
- 2007 **Use of Formal Computational Models for Designing Intelligent User Interfaces**
by Maria Vicente A. Bonto-Kane and Robert St. Amant
ACM International Conference Proceedings, Vol. 309, September, 2007 (ISBN:978-1-59593-862-6).
- 2006 **Engineering Models of Human Performance on the Design of Mobile Device Interfaces**
by Maria Vicente A. Bonto-Kane
NCSU Computer Science Technical Report, TR-2008-11.
- 1995 **Handwriting Recognition and Soft Keyboard Study**
by Naomi A. Kleid and Marivic A. Bonto, **IBM Technical Report** (December, 1995)
- 1994 **The Effect of Speech Intelligibility on Concurrent Visual Task Performance**
by David G. Payne, Leslie J. Peters, Deborah P. Birkmire, Marivic A. Bonto, Jeffrey Anastasi, and Michael J. Wenger, **Human Factors**, Vol 36(3)(September, 1994), pp. 441-475.
- 1991 **On the Role of Environmental Context in Eyewitness Memory (Masters Thesis)**
by Marivic A. Bonto and David G. Payne, **American Journal of Psychology**, Vol 104(1)Spring1991,pp.117-134.

Conference Presentations (selected presentations)

- 2010 **Distribution Modeling of Mouse-Mediated Responses**
by Maria Vicente A. Bonto-Kane and Robert St. Amant, **Poster, Grace Hopper 2010**, Atlanta, GA 2010
- 2009 **Finding and Maintaining a Job with the US Department of Defense**
by Maria Vicente A. Bonto-Kane, **Poster, Grace Hopper 2009**, Tucson, AZ, Oct 2009
- 2009 **Seeking, Structuring, Developing, and Evaluating Your Experience with a Mentor**
by Maria Vicente A. Bonto-Kane, **STARS Celebration 2009**, Tallahassee, FL, Aug 9-12, 2009
- 2008 **Examination of Variance in Production of Task Operators Questions GOMS Ability for a Quick Semi-Automated Usability Assessment of User Interfaces**
by Maria Vicente A. Bonto-Kane and Robert St. Amant, **Poster, Grace Hopper Conference 2008**
- 2008 **Timed-Causal State Splitting Reconstruction (T-CSSR) Algorithm**
by Maria Vicente A. Bonto-Kane and Christopher H. Griffin, **ORNL Research Session 2008** (ORNL, Oak Ridge, TN, August 6, 2008)
- 2007 **Formal Modeling to Improve Automation in Device Interfaces**
by Maria Vicente A. Bonto-Kane, **Poster, Life Science Automation 2007** (Leesburg, VA)
- 2007 **Use of Formal Computational Models for Designing Intelligent Mobile Device Interfaces**
by Maria Vicente A. Bonto-Kane, **Doctoral Colloquium, MobileHCI 2007** (Singapore)
- 2007 **Use of Markov Models for Designing Intelligent Mobile Device Interfaces**
by Maria Vicente A. Bonto-Kane, **Doctoral Colloquium, Pervasive Computing 2007** (Toronto, Canada)
- 1998 **SEI's Commercial-off-the-Shelf (COTS) Based Systems Initiative: An Appropriate Response to Reuse in Object Oriented Systems Development**
by Marivic A. Bonto-Kane, Michael B. Kachmarik, and Walker H. Land, **OOPSLA'98 ACM Society** (Vancouver, Canada)
- 1996 **Handwriting Recognition and Soft Keyboard Study**
by Naomi A. Kleid and Marivic A. Bonto-Kane, **Proceedings of the Human Factors and Ergonomics Society 40th Annual Meeting**. (Philadelphia, PA)
- 1992 **Using Corporate Guidelines to Develop Abstract Icons -- A Difference of Opinion**
by Michael P. Heck, James R. Rudd, and Marivic A. Bonto, **Proceedings of the 1992 IBM Human Factors/Product Usability ITL Meeting**. (Toronto, Canada)
- 1991 **Changes in Speech Intelligibility Impact Performance on Some But Not All Non-Auditory Tasks**
by David G. Payne, Marivic A. Bonto, Craig Lampkin, Angela Martinez, Craig Meisel, and Michael Savastano, **Proceedings and Abstracts of the Annual Meeting of the Eastern Psychological Association (62nd)**. (New York, NY)

1990

The Effects of Speech Intelligibility on Visual Task Performance Levels
by David G. Payne and Marivic A. Bonto, **Proceedings of Human Factors Society 34th Annual Meeting.**

AWARDS

Major awards:

- IBM Award for Authorship of an Internal Technical Work of Merit (1996)
- IBM Excellence Plus QIT Award (1993)
- Fulbright Hays Scholarship Grantee (1986-1991)

Other awards:

- NCSU Computer Science Department Recognition (student awardee SY2009-10, SY2008-09)
- NCSU University Graduate Student Research Symposium (selected as a departmental presenter, 2009)
- CRA-W Full Scholarship for Career Mentoring Workshop for Women (IJCAI, July, 2009)
- CRA-W/CDC Full Scholarship for Logic (NMSU, Las Cruces, NM July 24-27, 2008)
- IBM Master the Mainframe Challenge, Part 1 Winner (2008, 2007)
- Best Research Poster (Electrical and Computer Engineering Research Seminar, Feb. 16, 2008)
- Grace Hopper Conference Full scholarship attendee for 3 years (2007, 2008, 2009)
- Richard Tapia Conference Full scholarship attendee for 2 years (2007, 2009)
- STARS Alliance Conference Full Scholarship attendee for 2 years (2008, 2009)
- NCSU Student Bridges Leadership Development (one of 13 women university-wide awarded, 2007)
- IBM Recognition Award for Development of Reusable Instructions for LAN Adapter Drivers (1996)
- IBM Award for Authorship of an Internal Technical Work of Merit (1996)
- IBM YEA Award (1996) -- 3 awards
- PEO International Peace Scholarship (1988-1989), Delta Kappa Gamma World Fellowship (1986-1988)
- Ateneo Foundation Scholarship grantee, Dean Galdon Scholarship grantee (college degree)
- Ballroom Dance Competition awards: Triangle Open Competitions 2005, 2006, 2007, 2008, 2009

INVITED TALKS

2010

Statistical Models of Human Response Times

by Maria Vicente A. Bonto-Kane

Penn State University, University Park, PA, August 9, 2010

2008

Computational Approaches to Improving Human-Machine Interaction

by Maria Vicente A. Bonto-Kane

BAE Systems, Burlington, MA, June 2, 2008

2008

Formal Computational Approaches for Designing and Evaluating Human-Machine Interfaces

by Maria Vicente A. Bonto-Kane

Oak Ridge National Laboratory, Oak Ridge, TN, April 3, 2008

TRAINING/WORKSHOPS

2009

CRA-W Career Mentoring Workshop

-- CRA-W Full Scholarship held at International Joint Conference on Artificial Intelligence, July, 2009.

2008

3rd International Compulog/ALP Summer School on Logic Programming And Computational Logic

-- CRA-W/CDC Full Scholarship, New Mexico State University, Las Cruces, NM July 24-27, 2008

<http://www.cs.nmsu.edu/~ipivkina/compulog.htm>

PROFESSIONAL ORGANIZATIONS

- IEEE (Student Member, 2010)
- ACM (Student Member, 2010)
- USA Dance (Dancesport athlete member 2005-2010)
- Aikido Philippines (lifetime member)

LANGUAGES:

English (fluent), Tagalog (fluent), Ilonggo (fluent), Spanish (Intermediate), Mandarin Chinese (Beginner)

HOBBIES and INTERESTS:

Ballroom dancing (USA Dance -- Dancesport Athlete), guitar (guitarist for church choir), fitness activities (aerobics, bicycling, martial arts), art (painting and calligraphy), crafts, cooking, bartending, gardening
-- won in ballroom dance competitions Triangle Open (2005-2009)
-- Flamenco dance (include sapatado, abraço, palmas, castañuelas, mantón y abanico)
-- Member, Mariachi band

COMMUNITY SERVICE

Member, Graduate Student Admissions Committee (SY2010)

-- involved in screening international student applicants to the MS and PhD program

Graduate Student Representative, NCSU University Standing Committees (SY09-10, SY08-09, SY07-08)

- served on university standing committees: Evaluation of Teaching Committee, Extension Engagement, and Economic Development Committee, International Programs Committee, Physical Environment Committee, Student Health, University Library Committee
- obtained graduate student feedback for input on university issues and committee decisions such as increase in student health insurance, evaluation of teaching instrument, screening of community extension grants, etc.

Board Member, Friends of the Library, NC State University (SY09-10, SY08-09)

- attended meetings, participated in workshops and fund raising

Officer, NCSU Computer Science Graduate Student Association (SY07-08, SY06-07)

- Initiated workshops and events promoting gender and cultural diversity within the Computer Science Dept. such as workshops related to communication and intercultural skills, obtaining a legal work visa in the US, etc.
- In 2008, initiated the first departmental "Diversity Day" to recognize gender and ethnic diversity among Computer Science graduate students with speakers from businesses and a multi-ethnic banquet
- Worked to obtain funding for many of the CSC GSA initiatives by writing proposals to partner businesses; one such grant enabled us to send on full scholarship ten female students to the Grace Hopper Conference in 2008
- Participated in Geek-aThon where donated computers can be refurbished to provide for local area schools

Member, STARS Alliance (SY08-09)

- Mentored undergraduate and graduate students in Computer Science

Guitarist (since High School)

- Guitarist for parish/school/church choir; also performed at church social functions

COMPUTING SKILLS

Programming Languages

C, C++, C#
 ASP, .NET
 VBasic, VBA, VBScript
 Java, JavaScript
 XML, XSLT, HTML, CGI
 BASIC, QBasic, ApplesoftBasic
 Perl
 Smalltalk
 Haskell
 REXX
 Pascal
 Assembly Language
 Lex/Flex, Yacc/Bison
 Prolog, Common LISP
 GOMS Modeling Techniques (CMN-GOMS, KLM-GOMS, NGOMSL, EGLEAN, CPM-GOMS, CogTool)
 PRISM (Probabilistic Symbolic Model Checker)

Operating Systems

Windows 3.1/Workgroups/95/NT/2000/XP/Vista
 Unix, Linux Red Hat 9.0
 OS/2 Version 1 and 2
 Macintosh
 DOS 6.0
 VM/CMS (Mainframe)
 VAX

Formal Models

Markov Chains, Markov Decision Process, Hidden Markov Models
 Fuzzy Logic
 Generalized Regression Neural Network (GRNN)

Software Applications:

MS Office 95/2000/XP
 Visual Studio 6.0, Visual Studio .NET
 MS SQL, Oracle
 Adobe Photoshop CS2
 SAS Enterprise
 EndNote9

Mainframe:

BookMaster, PROFS, SAS, XEdit, ISPF, JCL