PABITRA KUMAR DASH
Utah Water Research Laboratory
Utah State University
Logan, UT 84322
Office Tel.:435-797-2791
E-mail: pabitra.dash@usu.edu

SUMMARY OF EXPERIENCE:

- ✓ Software development in higher education system: 9 years
- ✓ IT industry (database design and programming, application programming, software quality assurance and documentation, and end-user training): 8 years
- ✓ University teaching (computer information systems): 7 years

SUMMARY OF PROFESSIONAL SKILLS:

- ✓ Experience in full life cycle software development in an agile environment
- ✓ Experience in relational database design and modeling
- ✓ Knowledge and experience in object-oriented software analysis and design based on UML
- ✓ Experience in object-oriented programming languages (Python, C#, and VB.NET)
- ✓ Experience in web application development using Django/Python.
- ✓ Experience in WEB API/RESTful Services development (Django/Django REST Framework)
- ✓ Experience in source code management using GitHub
- ✓ Experience in working in team environment with effective teamwork skills
- ✓ Excellent analytical skills with a background in engineering and software development
- ✓ Ability to communicate verbally in one-to-one as well as in group settings
- ✓ Experience in gathering/documenting user requirements related to software applications
- ✓ Excellent ability to self learn new skills related to software development

PROFESSIONAL EXPERIENCE:

Software Engineer (Jul 2012 – Present)

Utah State University, Logan, UT

Responsible for developing cyber-infrastructure software components for hydrological modeling for the CI-Water project, HydoShare project, and GRAIP project

Job duties and achievements:

- Developed geo-processing web services (HydroDS) for the CI-Water project based on Django and Django REST framework.
- Developed a Python client tool for HydoDS web services.
- As a core developer of the HydroShare developer team, designed and implemented metadata models for HydroShare project.
- Working with many graduate students as part of the HydroShare project to help them effectively contribute to this project as part of their research work.
- Responsible for HydroShare code quality improvement through unit tests and code review.
- Successfully re-implemented the GRAIP software in Python.

Software Engineer (Jan 2012 –Jul 2012)

AccessData, Lindon, UT, USA.

Worked in an agile development environment for the Mobile Phone Examiner forensic desktop/tablet software system.

Job duties and achievements:

- Responsible for developing WPF based UI using MVVM pattern, PRISM and Cinch frameworks.
- Developed phone data analysis/visualization tools
- Developed backend forensic data components using C#4.0

Software Engineer (Aug 2009 –Dec 2011)

Center for Nanoscale Science & Engineering, North Dakota State University, Fargo, ND, USA.

Responsible for developing an informatics system for the Bioactive Material Research Laboratory (BMRL).

Job duties and achievements:

- Responsible for full life cycle development of the BMRL Informatics System.
  This workflow system streamlines experimental data collection, data analysis as well as management/tracking of samples and labwares.
- Developed a software component using C# 4.0 for experimental sample layout schema design and sample layout map generation based on the schema. This would help researchers in planning high throughput experimental design for polymer research.
- Developed a service oriented middle tier component based on Windows Communication Foundation and C# 4.0 to support data storage and retrieval.
- Designed and implemented a SQL Server 2008 R2 database for the informatics system.
- Developed the user interface for the informatics system based on Windows Presentation Foundation, XAML and C# 4.0. This provides tools for easily querying experimental data, data analysis, data visualization, and report generation.
- Developing scripts for Tecan Liquid Handling Robotic System used for high throughput experiments.
- Meet regularly with the team of scientists, graduate students and laboratory technicians to document system requirements.
- Present system demo to the users of the system as new features are being implemented to ensure that the system meets user requirements.

Associate Professor (Jan. 2002- May 2009)

Division of Business and Computer Information Systems, Mayville State University, Mayville, ND, USA

Responsible for teaching undergraduate computer information systems courses, advising students and providing university and community services.

Job duties and achievements:

- Have taught a variety of CIS courses including object-oriented programming (C#, VB.NET, Java), database design and programming (SQL Server, MS Access, T-SQL), web application development (XHTML, CSS, JavaScript, Ajax, ASP.NET), and systems analysis and design (UML, MS Visio).
- Have developed a database application for the Student Records Department to manage student applications for graduation. This system generates a variety of reports that are critical for academic program development and student recruitment. This application was developed using VB.NET, MS Access and Crystal Reports.

Software Consultant (Jun 2004 – May 2005)

Department of Animal & Range Sciences, North Dakota State University, Fargo, ND, USA

Responsible for developing and maintaining the BeefSim computer simulation model for cow/calf production.

Job duties and achievements:

- Successfully ported the BeefSim VB 6 code to VB.NET. The original BeefSim application was also developed by me using 2-tier architecture.
- Enhanced the User Interface and added new simulation module to simulate the finishing feedlot operation.
- The BeefSim simulation tool is now being used in animal production class at North Dakota State University.

Software Engineer (Jan. 2000 – Jan. 2002)

Department of Animal & Range Sciences, North Dakota State University, Fargo, ND, USA

Responsible for the development of a computer-based Decision Support System for cow/calf production.

Job duties and achievements:

- Responsible for full life cycle development of the NDSU BeefSim system.

  This model consisted of programming numerous mathematical equations that simulate the growth behavior of cow/calf. In addition, the BeefSim system allows user to analyze data as well as generate various reports that are critical to making good business decisions as it relates to cow/calf management for beef production.

- Managed a multi-disciplinary project involving three disciplines (animal production, agricultural engineering and agricultural economics) on livestock production systems.
- Consulted various animal production faculties and farmers to establish user requirements for this computer simulation model.
- Used the defied requirements to design an object-oriented application using 2-tier architecture for the cow/calf simulation model.
- Implemented the simulation model design using Visual Basic 6 and MS Access.
- Prepared user documentation for the simulation model and provided hands-on training to potential users of this simulation model.

*Technical Consultant (*Feb. 1998 – Aug. 1999*)*

Nautronix Pty Ltd., Perth, Australia

Responsible to the Product Development Manager for the preparation of all technical documents for the company's new acoustic range of products.

Software Quality Assurance Engineer (Dec. 1993 – Jan. 1998)

Voicenet (Aust.) Ltd., Perth, Australia

Responsible to the Chief General Manager for re-engineering the software development process, implementing "ISO 9001 Quality Assurance Program", providing training to the staff and preparing all technical documentation.

Software Engineer (Jul. 1992 – Nov. 1993)

CrossCom Pty Ltd., Perth, Australia

Responsible to the Product Development Manager for the development of the "PABX Call Data Analysis System."

EDUCATION /TRAINING:

Professional Qualifications:

Ph. D. (Engineering) (1987 – 1989), Asian Institute of Technology, Bangkok, Thailand.

MBA (2003), North Dakota State University, Fargo, ND, USA.

Master of Engineering (1986), Asian Institute of Technology, Bangkok, Thailand.

B.Sc. (Agricultural Engineering) (1978), College of Agricultural Engineering & Technology, Bhubaneswar, India.

Advanced Certificate in Computer Programming Technology (1992), Computer Power Training Institute, Perth, Australia.

PUBLICATIONS/PRSENTATIONS:

- Morsy, M. M., J. L. Goodall, A. M. Castronova, P. Dash, V. Merwade, J. M. Sadler and D. G. Tarboton. "Design of a Metadata Framework for Hydrologic Models with an Example Application in HydroShare." Preparing for submission in Journal of Environmental Modeling and Software.

- Morsy, M. M., J. L. Goodall, A. M. Castronova, P. Dash, B. Miles, V. Merwade, J. M. Sadler and D. G. Tarboton, 2016. "Design and Implementation of Hydrologic Model Sharing Capabilities within the CUAHSI HydroShare System. " In: Proceedings of the 8th International Congress on Environmental Modelling and Software, S. Sauvage, J. M. Sánchez-Pérez, and A. Rizzoli (Editors). International Environmental Modelling and Software Society (iEMSs), Toulouse, France.

- Morsy, M.M., J. L. Goodall, A. M. Castronova, P. Dash, V. Merwade, M. A. Rajib. "Toward a Common Metadata Framework for Representing Water Models as Resources." In: Proceedings of the 3rd CUAHSI Conference on HydroInformatics. Model and Data Interoperability:From Theory to Practice. University of Alabama and the National Water Center, Tuscaloosa, AL, July 15-17, (2015). DOI: 10.13140/RG.2.1.4204.9125.

- Heard, J., D. Tarboton, R. Idaszak, J. Horsburgh, D. Ames, A. Bedig, A. M. Castronova, A. Couch, P. Dash, C. Frisby, T. Gan, J. Goodall, S. Jackson, S. Livingston, D. Maidment, N. Martin, B. Miles, S. Mills, J. Sadler, D. Valentine and L. Zhao, (2014), "An Architectural Overview of Hydroshare, A Next-Generation Hydrologic Information System," 11th International Conference on Hydroinformatics, HIC 2014, New York City, USA, Paper 311.

- Yildirim, A. A., D. Tarboton, P. Dash and D. Watson, (2014), "Design and Implementation of a Web Service-Oriented Gateway to Facilitate Environmental Modeling using HPC Resources," in D. P. Ames, N. W. T. Quinn and A. E. Rizzoli (eds), Proceedings of the 7th International Congress on Environmental Modelling and Software, San Diego, California, USA, June 16-19, 2014, International Environmental Modelling and Software Society (iEMSs), ISBN: 978-88-9035-744-2.

- Jones, N., J. Nelson, N. Swain, S. Christensen, D. Tarboton and P. Dash, (2014), "Tethys: A Software Framework for Web-Based Modeling and Decision Support Applications," in D. P. Ames, N. W. T. Quinn and A. E. Rizzoli (eds), Proceedings of the 7th International Congress on Environmental Modelling and Software, San Diego, California, USA, International Environmental Modelling and Software Society (iEMSs), ISBN: 978-88-9035-744-2.

- Tarboton, D., Horsburgh, J., Dash, P., Gichamo, T., Yildirim, A., Jones, N., 2014. Data Services in Support of High Performance Computing-Based Distributed Hydrologic Models: Abstract H13H-1211 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.