

## Dr. Peter Patrick WAKABI-WAISWA CURRICULUM VITAE

### Basic Information

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Name: Peter Patrick WAKABI-WAISWA, PhD  
Date of Birth: 11<sup>th</sup> July 1967  
Marital Status: Married  
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### BRIEF PROFILE

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Dr Wakabi-Waiswa is seasoned ICT professional and holds a Doctor of Philosophy in Computer Science, distinction Master's degree in Computer Science, a Post-Graduate Diploma in Leadership Development in ICT & the Knowledge Society, a Postgraduate Diploma in Computer Science, and an Upper Second Bachelor's degree in Statistics. He is also certified in a wide range of thematic areas including Monitoring and Evaluation, Virtualization, Network Administration, information Security Management System (ISMS) and Business Continuity, and Professional/Legal Issues in Information Technology.

He has over fifteen years of practical experience in the design, development, deployment and maintenance of large, complex and integrated Information & Communications (ICT) systems. This expertise has been attained through working with local, international, public and private sector organizations. He has competently worked on assignments of both national and international scope which exposure endows him with the relevant experience that meets the requisite management and ICT needs of most kinds of development programs. He possesses invaluable expertise in formulating and implementing ICT policies and strategic plans for the public, private sector, and donor agencies.

Over the years, he has taken an active role and provided strategic leadership in all stages of systems development several multi-tier enterprise systems in the East African Region. These systems range from National Construction Databanks Systems, National Development Plans, Monitoring and Evaluation Systems, Land Titles Management Systems, remote electricity metering systems, to automatic verification of academic results.

Currently, Peter is the Head of ICT at the Uganda National Examinations Board (UNEB). With a year of appointment at UNEB, he has developed an automated letter of verification report (e-LVR) system. The e-LVR has assisted UNEB to reduce the period of issuing letters of verification of results from 30 days to under thirty minutes. This has greatly assisted UNEB improve its revenue generation and profoundly improved the general image of the UNEB.

He formerly worked as Head of ICT at the NPA where he was in charge of the coordination

of National ICT interventions and offering overall top level advice on all ICT related issues of the authority across all departments. As the national coordinator of ICT interventions in the Authority, he spearheaded the development of the national medium and short term ICT plans that were integrated into the 5-year national development plan and I oversaw the implementation of ICT Sector components of the NDP.

He has previously worked in a number of private, public, development partners and the private sector organisations in strategic positions. He worked as a Commonwealth Technical Adviser to the Government of Tanzania where he provided strategic leadership in the design, development, deployment, and maintenance of the National Construction Council's (NCC) Databanks System. He also worked as IT Consultant with PricewaterhouseCoopers where he assisted several firms in strategically positioning themselves in their marketplaces using ICT. And, he worked as the Principal Information Technology Officer of UETCL where he assisted the company in transforming its ICT infrastructure into a modern and efficient ICT environment.

He possess very good research and training skills including communication, writing and presentation which are evidenced through lecturing at two reputable universities and the several peer reviewed scientific and academic papers authored, presented and published. In these universities he supervised students' terminal research projects at both undergraduate and postgraduate levels.

He is endowed with practical hands-on experience with a wide range of state-of-the-art specialised software development tools and technologies: Visual Studio.NET (ASP.NET; C#.NET; Visual Basic.NET; ADO.NET; Visio; and Crystal Reports), C/C++; Pascal, and Prolog; Relational Database Management Systems (RDBMS) including MS SQL Server, Oracle and Transact-SQL Programming; HTTP; DHTTP; HTML; XML; and XSL, Java, JavaScript, Microsoft.NET Framework, SPSS and Epi-Info, Simul8, Witness, VPx, Novell NetWare (Certified), Windows Server/workstation; DOS, Unix (aix); UML, SOAP, Web Services, WSE, UDDI; Directory services; Unix OS.

### Academic Qualifications

Qualification	Institution	Year
Doctor of Philosophy in Computer Science	Makerere University, Uganda	2012
Post Graduate Diploma in Leadership Development in ICT & the Knowledge Society	Dublin City University, Ireland	2013
Master of Science in Computer Science (Distinction)	National University of Science & Technology, Zimbabwe	1998
Postgraduate Diploma in Computer Science	Makerere University, Uganda	1995
Bachelor of Statistics (Upper Second)	Makerere University, Uganda	1991

## Membership in Professional Bodies

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- Global e-Schools and Communities Initiative (GESCI) – Member and Alumni
- Virtualisation Council Infrastructure Professional - Certified Member
- Novell Certified Network Administrators' Network – Certified member
- CIO Forum of Uganda - Member
- Uganda Statistical Society - Member

## Academic Awards

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- National University of Science & Technology (NUST) **Book prize** for emerging the best student in the first year of the Master's Programme
- National University of Science & Technology (NUST) **Vice Chancellor's (VC) Prize** for emerging the overall best student of the entire Master's Programme

## Certifications

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- Professional Development Certificate in African Leadership in ICT, African Union, Nairobi, Kenya (July, 2013)
- Virtualisation Council Virtualisation Infrastructure Professional (Certified Member), USA Unitek Education, 4670 Auto Mall Parkway, Fremont, CA 94538, (October 2010)
- VMware vSphere Fundamentals USA Unitek Education, 4670 Auto Mall Parkway, Fremont, CA 94538, (October 2010)
- Certified Network Administration, Harare, Zimbabwe (December 1999).

## Short Courses

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- Medium and Long Term Economic Development Planning for Senior Officials, Academy of Macroeconomic Research (AMR), National Development and Reform Commission of the People's Republic of China, (September – October, 2011)
- Information Security Management Systems and Business Continuity Boot-camp Nairobi Kenya (October 2008)
- Monitoring and Evaluation of Population, Health and Nutrition Programmes within a Decentralised System, Institute of Statistics and Applied Economics, Makerere University, (July 2008)
- Professional/Legal Issues in Information Technology, Nairobi, Kenya, (September 2007)
- Effective Internet Search Techniques, UNDP Eastern Africa Sub-Regional Resource Facility, Addis Ababa, Ethiopia, (June – July 2000)

## Research Interests

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Computer Science, Software Engineering, Databases Systems, Artificial Intelligence, Strategic Planning, e-Governance, Mobile Computing, Web-based Systems and Futures Thinking.

## Consultancies

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- Design, development and implementation of an integrated computerized and web based system to manage Progress Monitoring Plan (PMP), supply chain for drugs and capacity building returns for the STAR-E Project in twelve districts in Eastern Uganda
- Design, development and implementation of HIV-AIDS Database system for Strengthening Tuberculosis and HIV&AIDS Responses in East Central Uganda (STAR-EC)
- Design, development and implementation of the East African Community Central Monitoring System (EAMS-Central)
- Design, development and implementation of the Ministry of East African Community Affairs Monitoring System (EAMS Uganda)
- Design, development and implementation of relational Database for the Cost-Implementation Matrix of The National Development Plan
- Design, development and implementation of the HIV-AIDS Database system for Strengthening Tuberculosis and HIV&AIDS Responses in East Central Uganda (STAR-EC)
- National Housing and Construction Company Limited/ Design, Development and Implementation of a Titles Management System
- Design, Development and Implementation of a Monitoring and Evaluation Indicator Database Application for UPHOLD
- AIDS/HIV integrated model (AIM) district programme - Data Quality Audit

## FORMAL EMPLOYMENT

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### National Planning Authority (NPA)

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**Head of ICT**

**February 2009 – 2011**

He was responsible for coordination of ICT interventions at the National level on behalf of NPA, and I am in charge of Managing and advising on the entire ICT Infrastructure and systems of the NPA, including all hardware and software. My roles include the following:

- Work closely with relevant stakeholders in developing the national long, medium and short term ICT plans and policies;
- Take lead and provide strategic leadership in the design, development, deployment, and maintenance of applications;
- Participate in monitoring and evaluation of National ICT interventions
- Develop the NPA's ICT strategic plan, policies and procedures.
- Assess ICT resource needs of the Authority and prepare Annual budgets and work-plans.
- Coordinate national and regional ICT initiatives/ program activities including the e-schools project on behalf of the Authority.

- Harmonize and standardize NPA ICT infrastructure and systems to the national data transmission back bone and e-Government infrastructure.
- Analyse developments in Internet technology and propose far-reaching Web strategy to improve client services and Authority's visibility.
- Developed and deployed the Cost-Implementation Matrix of the National Development Plan
- Developed and deployed the Community Information System

## **Uganda Electricity Transmission Co. Ltd. (UETCL)**

**Principal Information Technology Officer**

**January 2006 – December 2008**

He managed technical infrastructure operation and development for the utility company. Directed technical staff to provide quality desktop support, reliable remote access, regular data backup, and robust networked resources. Negotiated contracts, directed long-range planning, prepared and monitored budgets and conducted ROI studies.

- Implemented the company's first-ever disaster recovery plan to ensure minimal productivity loss and Improved business continuity procedures
- Prepared RFPs for major technology infrastructure build-outs and refreshes.
- Established targets for equipment lifecycles to maximize productive use of technology at all levels of the organization.
- Developed and implemented technology standards, reducing unnecessary complexity and realizing substantial savings on maintenance costs.
- Formulated the Company's ICT Policies that provided an effective and secure computerised information system to fulfil corporate and system control end-user needs.
- Redesigned and overhauled the ICT infrastructure to permit seamless remote access to the corporate resources, accessing messages using mobile devices and other security sensitive information
- Built from the bottom up the first ever portal services for the company
- Implemented a Demilitarized Zone (DMZ)
- Developed and implemented the Business Continuity Processes
- Designed and developed the remote metering system

## **Uganda Christian University**

**Lecturer**

**May 2004 to December 2005**

I lectured students a wide range of courses including Information Systems Development, Relational Database Management Systems, Programming and programming methodology, Communications and Data Networks, Simulation and Modelling, Business Statistics.

## **The Commonwealth Secretariat London**

**ICT Technical Advisor/Expert**

**2001 – 2004**

There was growing concern within the industry and in many fora of the poor state of the information services for the construction industry in the Tanzania. To improve documentation and dissemination of information and promote exchange of experiences within the construction industry, NCC was called upon to establish a well organised and co-ordinated information system which would improve access to timely and reliable information/data by actors in the industry. The NCC, therefore, approached the Commonwealth Secretariat in London for Technical Assistance who appointed me as ICT Technical Advisor (Expert) to assist NCC with its process of strengthening its information system by establishing an integrated computerised information system for the industry.

### **The Databanks System**

On this assignment I designed, developed and implemented a multi-tiered system (Databanks) based on the Microsoft.NET Framework using Visual Studio.NET and SQL Server. I carried out all the development phases of developing systems: studied and documented the user requirements needs generating a formal specification document; designed and developed the multi-tiered Relational Database Management System RDBMS. The databanks is a repository of information on the construction industry in Tanzania. It is a high performance application with database access classes for speed and performance. The database access classes are robust and fast enough to withstand the demands of large scale client and web applications.

## **PRICEWATERHOUSECOOPERS**

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**IT Consultant,**

**January 2001 – to April 2002**

PricewaterhouseCoopers was been employed under a two-year World Bank funded project, as part of the ICB-PAMSU project to provide financial management assistance and corporate-wide WAN connectivity within the Uganda Wildlife Authority across the country. His work involved the implementation of the corporate WAN and implementation and deployment of the Financial Management Systems (Sun Financials) countrywide.

### **Wide Area Network (WAN)**

As project consultant, I designed and oversaw the successful implementation and commissioning of the UWA wide area network. This infrastructure uses hybrid of connectivity technologies including wireless links, mobile telephony, leased telephone lines and UHF radios to link the different protected areas i.e. National parks and game reserves to the offices in Kampala

## **United Nations Development Programme (UNDP)**

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**LAN Manager/Administrative Analyst**

**June 1995 – Dec. 2000**

- I prepared the Information Management Plan (IMP) which aligns the office's information management system initiatives with its business needs.
- I designed, developed and implemented the UNDP Payroll System - UNDP Kampala

was running a manual payroll and wished to develop a more advanced system. I studied the payment processes and procedures. I defined the user requirements, design (physical and logical), coded, tested and integrated the modules of the payroll.

### **Container Loading Program (NUST Special Project December 1997)**

As a Master's student, I developed a container loading system for my research work. In that research, I considered the three-dimensional problem of finding the minimal number of containers needed to pack a given consignment of smaller boxes while maximising space utilisation. The problem also included specifying the corresponding patterns of the different boxes in the container. Some of the facts that I considered while finding the best space utilisation model was a realisation that the solution was restricted by a list of practical aspects such as technological constraints, weight distribution of the boxes and stability aspects. Applying a general branch and bound framework an efficient heuristic for the container packing problem was developed.

The three-dimensional solution model developed uses in the kernel a layer-wise packing strategy with optimal two-dimensional packing patterns. Linear Programming lower bounds for the number of pallets needed to pack the total consignment were developed.

## **Makerere University**

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### **Assistant Lecturer**

**Feb. 1992 to 1999**

He lectured postgraduate/undergraduate students a wide range of courses including algorithms and data structures; information systems development; relational database management systems; programming and programming methodology; simulation and modelling and artificial intelligent. I also carried out research in computing and supervised both undergraduate and postgraduate students' terminal research projects.

## **Rank Information Technology Centre**

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### **Statistician/Programmer**

**Sept. 90 – Jun 93**

- Data Analysis and Survey Design
- System Development
- System Studies

## **Experience Record**

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2012 – Date	Head of ICT, Uganda National Examinations Board
2009 – 2011	Head of ICT, National Planning Authority
2006 – 2008	Principal Information Technology Officer, Uganda Electricity Transmission Co. Ltd.
2004 – 2005	Lecturer, Uganda Christian University
2002 – 2004	ICT Technical Advisor/Expert - Commonwealth Secretariat, London, based at National Construction Council, Dar es Salaam, Tanzania
2001 - 2002	PricewaterhouseCoopers, IT Consultant, Kampala Uganda
1995 – 2000	LAN Manager/Administrative Analyst, UNDP, Kampala

1993 – 1995 Assistant Revenue Officer at Uganda Revenue Authority, Kampala Uganda  
 1992 - 1999 Assistant Lecturer, Makerere University, Kampala Uganda  
 1990 - 1993 Statistician/Programmer, Rank Information Technology Centre, Kampala, Uganda

## Languages Spoken

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Kiswahili	Good	Good	Good
Lusoga (mother tongue)	Excellent	Good	Good

## Selected Publications/Paper Presentations at International Conferences

- Wakabi P., (2012). "Effective Utilization of Information and Communications Technology in Sustainable Development Planning in Uganda." National Planning Authority Technical Working paper. August 2012.
- Wakabi P., Birungi P. (2012). "The Role of Information and Communications Technology in Sustainable Development Planning: Experience from Uganda." In *The Proceedings of 8<sup>th</sup> Annual International Conference on Computing and ICT Research (ICCIR'12)*, College of Computing and Information Sciences, Makerere University. August 2012.
- P. P. Wakabi-Waiswa, V. Baryamureeba, and K. Sarukesi, "Optimized association rule mining with genetic algorithms," in *The Proceedings of the 7<sup>th</sup> International Conference on Natural Computation (ICNC'11)*, Shanghai, China. July 2011.
- P. P. Wakabi-Waiswa and V. Baryamureeba, "Mining high quality association rules using genetic algorithms," in *The Proceedings of the 22<sup>nd</sup> Midwest Artificial Intelligence and Cognitive Science Conference*, Cincinnati, Ohio, USA, April 2011, pp. 73–78. [Online]. Available: <http://ftp.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-710/>
- Wakabi P., Baryamureeba V. (2008). "Extraction of Interesting Association Rules Using Genetic Algorithms." *International Journal of Computing and ICT Research, Vol 2, No.1*, December 2008, pp. 26–33.
- Wakabi P., Baryamureeba V. (2008). "Generalized Association Rule Mining Using Genetic Algorithms." *Annual International Conference on Sustainable ICT Capacity in Developing Countries (SREC08)*. Faculty of Computing & Information Technology, Makerere University, Kampala, Uganda
- Wakabi P., Baryamureeba V. (2007). "An Improved Multi-Objective Genetic Algorithm for Association Rule Mining." *International conference in Computer Science and Information Technology (COSCIT 2007)*. School of Computing and Informatics, University of Nairobi, Nairobi, Kenya.
- Wakabi P., Baryamureeba V. (2007). "A Fast Approach to Generating Association Rules Using Genetic Algorithms." In *The Proceedings of Southern African Computer Lecturers' Association (SACLA) Conference. Elephant Hills*, Victoria Falls, Zimbabwe.
- Wakabi, P. (Jan., 2004): Increasing the participation of women in the Construction Industry through Simulation Based Learning Systems. Institute for Financial Management, Dar es Salaam, Tanzania.



Wakabi, P. (Dec., 1997): A new Heuristic for Container Space Allocation for the Textile Industry. A working paper, Computer Science Department, National University of Science and Technology.

Wakabi, P. (Dec., 1997): Design and Development of Container Space Allocation System. (Special Project MSc, NUST).

## Referees

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**Mr. David Etuket,**

MIS Manager, National Housing and Construction Co. Ltd., 0712-800541, [detuket@nhcc.co.ug](mailto:detuket@nhcc.co.ug)

**Mr. Denis Businge,**

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