

## **Rukmal Fernando**

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Having graduated from a programme of study within which I was able to

- have a solid foundation in software development, and in the broader area of the analysis, design and management of information systems
- undertake a challenging final year project based on which two papers have been presented and a national tertiary level award won,
- integrate one year of assessed placement at a leading software development firm, where I was able to both use and refine knowledge and skills, and make a positive contribution,

I have now completed one year in the software industry as a software engineer, developing my knowledge and skills primarily on the technology track, while at the same time acquiring business related and management skills. I have also had the opportunity to share my knowledge in the position of a lecturer, gaining experience in an academic environment.

I am now in the process of looking at opportunities to pursue a Master's degree in Computing (*ideally in areas such as Information Systems Security, Behaviour Anomaly Detection, Privacy, Trustable Software Components, and Distributed Computing*), so that I can move ahead both in my career and in what I can give back to my country.

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### **Education**

#### **November 2001 – September 2005: Informatics Institute of Technology (IIT)**

Completed the final year of studies for the BSc (Hons) Information Systems degree from Manchester Metropolitan University (MMU), UK, and graduated in September 2005 with **First Class Honours**. The following can be taken as other indicators of performance:

- **Achieved:** First year (2001-2002) Average: 71%, rank: 5/75
- **Achieved:** Second year (2002-2003) Average: 79%, rank: 2/70  
(*Note: The grading system considers 70% and above to be A which is the highest grade*)

For the final year **Project** successfully carried out an investigation and completed a prototype and detailed report, presenting a novel approach for behaviour anomaly based user impersonation detection. Project led to two papers presented at conferences, and a national software award.

During the period of study, played a leadership role and guided numerous group assignments, liaising with and assisting colleagues and successfully realising all objectives. Co-organized the annual project exhibition, *Cutting Edge 2005*.

#### **January 1988 - August 2001: St. Peter's College, Colombo 4.**

Primary and secondary completed achieving two B's and one C in Physical Science at GCE (A/L) 2001 with a Z-Score of +1.4426 and an overall national rank of 1425.

All distinctions at GCE (O/L) in 1998, awarded College scholarship in Year 5 (1992).

## **Publications and Awards**

- **Silver award** at National Best Quality Software Awards (NBQSA) 2005, Tertiary Education category, for undergraduate project prototype. Award conferred by British Computer Society, Sri Lanka section.
- “*A Deterministic Profiling Approach to support Behaviour Anomaly Detection*”, International Information Technology Conference (11-12<sup>th</sup> October 2006, Colombo, Sri Lanka). Received honorary mention for “Best paper” award.
- “*User Impersonation Detection: A Behaviour Anomaly based Deterministic Approach*”, Institute of Electrical Engineers, Young Member’s Sessions, Annual Technical Conference. (3<sup>rd</sup> September, 2005, University of Moratuwa, Sri Lanka).

## **Work Experience**

### **November 2005 to date: Part-time Lecturer, Informatics Institute of Technology**

- Between November 2005 and August 2006 co-lectured on a final year core module for the MMU degree. Areas covered: *Object Oriented modelling with UML, Distributed Database Systems*.
- September 2006 onwards lecturing on an introductory Programming module for the BSc (Hons) degree programme of University of Westminster, UK. Areas covered: *Programming methodology, Object Oriented Programming, Java with introduction to Swing*.
- Nominated Second reader for one undergraduate research project

### **September 2005 to date: Software Engineer, IFS Research & Development International**

Member of architectural R&D team of global Enterprise Resource Planning (ERP) solutions provider IFS AB of Sweden. Working on several in-house application development tools to support identification and automatic application of code patches and updates across various customized code bases, with integrated build and deploy. Technologies: Visual C++ 6, .Net Framework 2, Win32 API, Oracle 9i, Flex, Bison, ANTLR.

Involved in a significant amount of research and development both individually as well as in coordination with rest of team. Independently developed a near-complete parser for Oracle 9i PL\SQL, and adapted and enhanced a parser for Java, using ANTLR. Worked on projects which were started with almost no clear technological design, but successfully realised goals with sometimes self-directed architectural designing. Assisted in testing and documenting developed applications, and provided troubleshooting and support for users.

### **August 2003 to September 2004: Industrial Trainee, Virtusa (Pvt.) Ltd**

Member of the Virtusa Knowledge Management (KM) Team contributing to various knowledge applications used internally. Administered a company-wide mailing list server as Product Owner, with membership doubling to about 750. Member of 5-person pioneering team that developed an initial version of a knowledge portal based on Microsoft’s Sharepoint Portal Server 2003 and Visual C#.Net, and later an integrated search application.

Involved in a significant amount of independent and collaborated research and development. Worked with Visual C#.Net, Sharepoint Portal Server (SPS) 2003, SPS Web Part development, Windows Sharepoint Services (WSS), Windows Server 2003, SQL Server 2000, Debian GNU/Linux 3.0, Mailman, Exim, HtDig. Involved in training of 9

trainees on SPS, SQL Server, Debian, Mailman etc. Successfully recovered from several system failures. Set up a mailing list server for Virtusa to communicate with US client team.

Independently handled communication with senior members of the company. As Intern Representative, arranged meetings and other informal gatherings of Virtusa's Intern community for sharing knowledge and bringing together students from various universities.

**August 2002 to November 2002: Informatics International Limited. (during vacation)**

Member of a 3-person team that undertook the preliminary design of an Estate Management System for the Agriculture Sector. Incrementally developed near complete data model, assisted team mates in developing an evolutionary prototype in VB. We conducted technical reviews and presentations on progress at various stages.

**Programming skills**

- GW-BASIC, QBASIC (1996), Visual Basic 4, 5 (1997 onwards): *Taught myself event-based GUI programming. Used WIN32 API and ActiveX DLLs, developed multimedia auto-run programs, MD5 based file encryption tool, tag editor for MP3 files etc.*
- Java: (Late 2001) Caught up quickly within degree programme. *Comfortable with Java SDK / API and other IDEs. Developed GUI applications with Swing, socket based communication, experience with CORBA.*
- .Net Framework: (Late 2003) *Currently working with .Net Framework 2. Comfortable with Encryption, Socket based communication, Multithreading, XML processing, Remoting, Windows Services, Web Services, etc. Familiar with ASP.NET. Large majority of prototype for undergraduate project developed using .Net Framework 1.1.*
- Visual C++: (2005 onwards) *Developed ATL/COM component and integrated with .Net (for project). At work, developing Windows application with VC++6 and MFC. Familiar with Win32 API.*
- Compiler theory: *Reasonably good understanding, developed parsers for PL/SQL and Java using ANTLR, some experience with Flex and Bison.*
- SPS 2003 Web Part development: (2003, during industrial placement) *creating, signing, deploying web parts, debugging, connectable web parts, incorporating client-side processing etc. in developing complex web parts.*
- Web development: *Familiar with CGI, Perl, JSP and used these with MySQL to create dynamically customizing web sites. Some experience with PHP and Python as well.*
- Information modelling and management: *Object Oriented modelling, UML and ER modelling. Worked with Oracle 9i PL/SQL, including Object Oriented development.*
- Assembly Language: *Some exposure to 80x86 assembler and programming techniques.*
- Followed a modular, structured, and performance sensitive development approach.

## **Non-computing skills**

Languages: *Fluent in Sinhala and English, written and spoken. Led house team to be best losers in inter-house debating (English) in school (1997). Submitted well written assignments and prepared and delivered effective presentations.*

Group work: *Able to liaise and work effectively with others in a group. Assumed leadership roles in group work where I moderated, led and managed workload, and successfully realised goals at both school for A/L group project and at IIT.*

Independent: *Able to find information and learn on one's own as evident in self-learning of programming. Able to grasp new concepts quickly and help others understand them.*

## **Academic/ research/ computing interests**

- Information systems security, especially encryption and authentication mechanisms.
- Distributed processing systems.
- High performance scientific computing.
- Free and Open Source software.
- Blogging (personal blog at <http://rukmal.blogspot.com/>).

## **Interests and activities**

Swimming: Member of St. Peter's College swimming team (1994 - 1996). Took part in inter-house and inter-school competitions. 'House' swimming captain (2000).

Amateur Astronomy: Member of the College Astronomy Club, later Assistant Secretary (1999) and Treasurer (2000). Co-organized first "*Astronomy Day*" event (September 2000).

Computing and other: Founder Vice President of Computer Club of the College. Later, as President initiated a project to develop a student body web site for the College. Represented school in national schools software competition (1996 / 1997). Member of house team that won first place in inter-house Quiz competition.

Community: Involvement in Church activities including Head Prefectship of the Daham Pasala and one year as member of the Pastoral Council of the Nedimala-Dehiwala Parish.

Music: Enjoy listening to classical and pop music. Play piano and keyboard.

*03 December 2006*