

# Alisson Sol - Physicist, Software Engineer, General Manager



## Alisson Sol

Master of Science in Computer Science  
Cambridge General Management Certificate

Email: [email@AlissonSol.com](mailto:email@AlissonSol.com) Web site: <http://www.AlissonSol.com>

### Objective

Continue to enhance my technical skills, and still provide technical guidance and participate hands-on in software development, demonstrating my leadership and management skills.

### Interests and Experience Summary

#### Fields of Interest

- Image Processing, Computer Vision, ERP, Big Data, Machine Learning, Distributed Systems, Security

#### Co-author of several patent applications

(6 USA patents granted, number in parenthesis)

- 2005/07/05 – Metadata-Based Form Rendering and Write-Back
- 2005/05/23 – System and Method for Integrated Management of Components Of A Resource
- 2005/05/18 – Flexible Data-Bound User Interfaces
- 2007/01/12 – User Interface for Selecting Members from a Dimension
- 2010/10/19 – Synthetic Gesture Trace Generator
- 2009/08/19 – Method and System for Document Assembly (7,577,906)
- 2009/11/10 – Rendering Database Queries with Blank Space (7,617,221)
- 2010/07/20 – Manipulation of Information Embedded in Content (7,761,924)
- 2012/08/07 – Techniques to Manage Information for Dynamic Reports Using Time Periods for a Business Model (8,239,248)
- 2012/12/25 – Method for Capturing Design-time and Run-time Formulas Associated with a Cell (8,341,512)
- 2014-10-20 - Behavior Change Detection System for Services
- 2015/03/30 - Testing Frequency Control using a Volatility Score
- 2015/05/22 - Template Identification for Control of Testing
- 2015/07/13 - Recognition of behavioural changes of online services
- 2016/11/01 - Volatility-based classifier for security solutions (9,485,263)

## Professional Experience

### Amazon Corporate LLC

- July/2017 – Current: **Senior Software Development Manager**
  - Manager for Dropship software teams in order, transportation and inventory.

### Microsoft Corporation

- May/2013 – June/2017: **Architect and Group Engineering Manager (AI&R Core)**
  - Engineering Manager for the SPACE (Security, Privacy, Accessibility and Capacity Engineering) team, supporting horizontal and vertical applications, like Bing, MSN, and Cortana.
  - Engineering Manager for AI Core Spartans group, a group of software engineers and data scientists working on special projects in the [Artificial Intelligence area](#).
- November/2011 – April/2013: **Engineering Lead for the Kinect for Windows team**
  - Recruited and managed Computer Vision team for the [Kinect for Windows SDK](#), which shipped in 32 countries with over 500K downloads.
- August/2010 – October/2011: **Knowledge Engineer for the Engineering Excellence team**
  - Worked on documenting and spreading best practices in the development discipline (focus on services, Azure, and agile methodologies), and as instructor for training sessions presented to engineers.
- Feb/2007 – July/2010: **Development Lead/Manager for Cambridge-UK Innovation Development team**
  - Hiring and management responsibilities for projects related to tech transfer and direct to customer products and services, including Gesture Mouse Experience Prototype (Microsoft [Touch Mouse](#)), Microsoft Research AutoCollage Touch 2009 application, Microsoft Research [AutoCollage 2008](#), a new communication device ([Wayve](#)), peer-to-peer technology ([Nimbus](#)), IPTV technology ([Pastry](#)).
- August/2004 – January/2007: **Engineering Lead for the Microsoft Office Business Applications team**
  - Development Lead for the Add-In for Excel, Reporting Wizard and Samples subsystems for Microsoft Office [PerformancePoint Server 2007](#), a Business Intelligence solution, and server integration with SharePoint.
- April/2003 – July/2004: **Engineering Lead for the Information Worker New Markets team**
  - Lead for the Microsoft Office Solution Accelerator for Proposals, and the Microsoft Office [Information Bridge Framework](#).
- April/2002 – March/2003: **Software Design Engineer Lead for the Microsoft Business Framework**
  - Development lead for the Workflow user interface (in ASP.NET) of the [Business Framework](#).
- March/2000 – March/2002: **Individual Contributor for BizTalk and Application Center teams**
  - Main developer of the BizTalk [Orchestration Designer](#) for BizTalk 2002, and designed integration with Visual Studio. Design and implementation of AppCenter tests for reliability and timeliness.

### CODEMIG - Information Technology Consultant

- CODEMIG - Companhia Mineradora of Minas Gerais (<http://www.codemig.com.br/>)
- September/1994 – February/2000
- Activities: General advice on Information Technology subjects for the whole company; Writing of Technical and Legal projects and proclamations, etc.; Responsible for maintenance of company web site
- Consultant for all IT subjects for public mining company, including CAD (Computer-Aided Design), financial and HR systems.
- Main system development projects
  - Analysis, design and development of system for data entry, update and queries about company stockholder information;
  - Analysis, design and development of system to capture data from time clocks and calculate personnel work time;
  - Analysis, design and development of system for information maintenance about company third part contracts.
- Main technology implementation projects
  - Specification, installation and configuration of hardware and software for company connection to Internet;
  - Installation and configuration of Sun workstations, including hardware (printer, tape units, CD-ROM, etc.) and software (image processing systems) for geoprocessing applications.

### **Micro Universo - Systems Architect**

- Micro Universo Informática S/A (<http://www.microuniverso.com.br>)
- July/1995 - June/1999
- Activities: Systems Analysis and Design for ERP (Enterprise Resource Planning) system; Model design was done with Rational Rose and relational scheme was automatically generated from model using Visual BASIC Automation script. The resulting object-oriented model had more than 200 classes and 1200 attributes, with reuse factor of 5 (more than 1000 tables would be needed in a pure relational model).
- Main tools: Rational Rose, Centura Builder (ex-SQLWindows), Visual BASIC

### **Last One - Information Technology and Quality Management Consultant**

- Last One
- May/1998 – February/2000
- Activities: Specify, install and configure software for company Intranet and Internet site; Instructor for company Total Quality Management program
- Main tools: Microsoft Windows NT Server - Terminal Server Edition, Microsoft Proxy Server, Microsoft IIS, Microsoft Site Server - Commerce Edition, DCOM, Microsoft Transaction Server, Microsoft SQL Server, Microsoft Visual Studio
- Main projects: Analysis and Design of Internet video rental system from company Web site; Analysis, Design and Development of Intranet system for customer order tracking

### **IEF – MG - Information Technology Consultant**

- IEF-MG – Instituto Estadual de Florestas de Minas Gerais (<http://www.ief.mg.gov.br>)  
Winner of public competition 018/97 (Contract: 0101000697)
- July/1997 to December/1997
- Activities: Technical review of bought equipment and installation of software in Windows NT network for regional offices. Configuration of clients with Windows and Linux in 108 workstations for geoprocessing, 5 monitoring workstations, 13 workstation for foment system e 4 other workstations

### **ADM Control - Research and Development Manager**

- ADM Control Informática (Today part of RM Sistemas – <http://www.rm.com.br>)
- December/01/1993 to July/07/1995
- Activities: Programmers management and training; Analysis and design of a client/server system for Project Budget and Task control
- Main tools: Rational Rose, Microsoft Visual C++, Microsoft SQL Server, Watcom SQL Server

### **COMIG - Systems Analyst**

- COMIG - Companhia Mineradora de Minas Gerais - Admission by Public Competition in 1st place
- June/03/1992 to January/13/1993
- Activities: Systems analysis and development; Administration of computer network
- Main tools: SunOS, Microsoft C/C++, ER Mapper, AutoCAD

### **CREDIREAL - Systems Analyst**

- CREDIREAL Serviços Gerais e Construções S/A
- March/05/1992 to June/02/1993
- Activities: Information Technology Consultant

### **EDIMINAS - Systems Analyst**

- EDIMINAS S/A (<http://www.hojeemdia.com.br>)
- January/01/1991 to November/30/1991
- Activities: Applications development for internal use; Installation and maintenance of the computer network for the “Hoje em Dia” newspaper; Author of the “Technology” column for the Computer Science page from July/1991 to February/1993

**Internship and academic assistance**

- DCC/UFMG - 2<sup>nd</sup> term 1991 - Post-Graduation teaching assistant: Numerical Calculus
- LCC/UFMG - Scientific Computation Lab. - November/1986 to July/1988 - Internship
- DCC/UFMG - March/1987 to December/1987 - Scientific scholarship - Project: Development of specialist system for linear algebraic equation systems resolution
- DCC/UFMG - May/1986 to December/1986 - Graduation teaching assistant: Numerical Calculus
- Chemical Dept./UFMG - March/1986 to August/1986 - Internship: Electronics Technician

## Curricular Education

### Cambridge General Management Certificate

- Cambridge Judge Business School, University of Cambridge, Cambridge, United Kingdom
- December/2009

### Doctoral Degree on Computer Science

- UFMG - Federal University of Minas Gerais, Belo Horizonte, MG, Brazil (<http://www.ufmg.br>)
- Area: Software Engineering, Digital Image Processing, Multimedia, Distributed Processing
- March/1993 - Unfinished
- Approved in Qualification Exam

### Master's Degree on Computer Science

- UFMG - Federal University of Minas Gerais, Belo Horizonte, MG, Brazil (<http://www.ufmg.br>)
- Computer Science Department (<http://www.dcc.ufmg.br>)
- Area: Digital Image Processing, Software Engineering (<http://www.npd.dcc.ufmg.br>)
- March/1990 to March /1993
- Dissertation: PhotoPix: an object-oriented framework for digital image processing systems

### Post Graduation studies on Electrical Engineering

- USP - University of São Paulo, São Paulo, SP, Brazil (<http://www.usp.br>)
- Area: Microeletronics
- August/1988 to December/1989

### Graduation on Physics, BSc

- UFMG - Federal University of Minas Gerais, Belo Horizonte, MG, Brazil (<http://www.fisica.ufmg.br>)
- March/1985 to July/1988

### Electronics Technician

- CEFET/MG - Federal Center for Technological Education of Minas Gerais, Belo Horizonte, MG, Brazil (<http://www.cefetmg.br>)
- From 1982 to 1984

## Extracurricular Education, Experiences and Professional Certification

**MCSE (Microsoft Certified Systems Engineer) ID: 1417594**

### Java Certification

- Sun Certified Programmer for the Java™ 2 Platform; Site Number: BR 16; Test: 310-025; Candidate ID: SP1837095; March/1999; Validation: <http://www.galton.com/~sun/>

### French Language Course

- FALE/UFMG - Faculty of Letters of UFMG, Belo Horizonte, MG, Brazil
- 240 hours - March/1993 to June/1995

### Student volunteer for “SIGGRAPH 93”

- Sponsor: ACM SIGGRAPH - Anaheim Convention Center, Anaheim, CA, USA
- August/01-05/1993

### English Language Course

- FALE/UFMG - Faculty of Letters of UFMG, Belo Horizonte, MG, Brazil
- 180 hours - August/1985 to November/1986

### Certificate of Proficiency in English

- The University of Michigan - English Language Institute, November 27, 1993

### ACM member – Association for Computing Machinery

- Member number: 4184479

## Main Published papers

### **PhotoPixJ: uma Plataforma para Processamento Digital de Imagens em Java**

- A.C.R. de Almeida, A.A.S. Sol & A. de A. Araújo
- XI SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing (In Portuguese)
- October/20-23/1998, Rio de Janeiro, RJ, Brazil

### **A Metamodel for Distributed Multimedia Processing Systems Development**

- A.A.S. Sol & A. de A. Araújo
- III Workshop of Thesis in Software Engineering of the XII SBES - Brazilian Symposium of Software Engineering
- October/13-16/1998, Maringá, PR, Brazil

### **PhotoPixJ: Plataforma em Java para Implementação de Algoritmos de Processamento Digital de Imagens**

- A.C.R. de Almeida, A.A.S. Sol & A. de A. Araújo
- XII SBES - Brazilian Symposium of Software Engineering (In Portuguese)
- October/13-16/1998, Maringá, PR, Brazil

### **PhotoPixJ**

- A.C.R. de Almeida, A.A.S. Sol & A. de A. Araújo
- Educational Software Session of IV WIE - Workshop of Computer Science in the School, during the XIX Congress of the SBC (Brazilian Computer Society)
- August/07/1998, Belo Horizonte, MG, Brazil

### **PhotoPix: an Object-Oriented Framework for Digital Image Processing Systems**

- A.A.S. Sol & A. de A. Araújo
- Image Analysis and Processing - 8th International Conference, ICIAP '95 San Remo, Italy, September/13-15/1995
- (Lecture Notices in Computer Science. Vol. 974, pp. 109-114, ISBN 3-540-60298-4, Springer-Verlag, 1995)

### **PhotoPix: uma Plataforma para Sistemas de Processamento Digital de Imagens Orientada para Objetos**

- A.A.S. Sol & A. de A. Araújo
- Proceedings of the VI SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing (In Portuguese)
- Mar Hotel, Recife, PE, Brazil, October/19-22/1993, pp. 65-73

### **PhotoPix: a Color Quantization System**

- A.A.S. Sol & A. de A. Araújo
- Proceedings of the 1993 PCS'93 - Picture Coding Symposium, pp. 18.12-14
- Swiss Federal Institute of Technology, Lausanne, Switzerland, March/17-19/1993

### **Extraction of Linear Geologic Structures from Remote Sensing Orbital Images**

- A. de A. Araújo, B.S. Soares Filho & A.A.S. Sol
- Proceedings of the XVII Congress of the ISPRS - International Society for Photogrammetry and Remote Sensing
- Washington, DC, USA, vol. XXIX, Part B7, 1992, pp. 592-594

### **Otimização da Exploração Mineral com Uso de PDI e SGI na Plataforma SPARC**

- J. C. Christophe da Silva, C.R. Franca, A.A.S. Sol & C.T. Carvalho
- 5th National Seminar "The Computer and its Application in the Mineral Sector", Proceedings... (In Portuguese)
- Belo Horizonte, MG, Brazil, August/17-19/1992

### **Geoexplo: Implantação de um SGI para Exploração Mineral**

- J. C. Christophe da Silva, C.R. Franca, A.A.S. Sol & C.T. Carvalho
- Brazilian Congress of Geology, Proceedings... (In Portuguese)
- São Paulo, SP, Brazil, 1992

### **Epitaxial Regrowth of Silicon on Sapphire by Rapid Isothermal Processing**

- R. Madarazo, A.G. Pedrine, A.A.S. Sol & V. Baranauskas
- SPIE's Technical Symposium on Microelectronic, Processing & Integration (SPIE - Society of Photo-Optical Instrumentation Engineers)
- Santa Clara Marriot Hotel, Santa Clara, CA, USA, October/03/1990

### **SIRINEL User Manual**

- Newton R. dos Santos & A.A.S. Sol
- Technical Report 009/1990 - DCC - ICEX - UFMG (Department of Computer Science of the Exact Sciences Institute of the Federal University of Minas Gerais), Belo Horizonte, MG, Brazil

### **Re-Epitaxia de Silício sobre Safira por Processamento Térmico Rápido**

- R. Madarazo, A.G. Pedrine, A.A.S. Sol & V. Baranauskas
- X CBRAVIC - Brazilian Congress of Applications for Vacuum in Industry and Science (In Portuguese)
- Technological Institute of the Aeronautics, São José dos Campos, SP, Brazil, July/26/1989



## Main Presented Courses

### Instructor for the Microsoft Engineering Excellence

- Course: “Engineering at Microsoft”, “Development at Microsoft for SDE I”, “Development at Microsoft for SDE II”, “Development at Microsoft for Senior SDEs”, “Javascript Fundamentals”, “Agile Development Lab in C#”, “Agile Development Lab in C++”.
- August/2010 to October/2011, 300+ hours

### Mini-course "XQuery and XPath"

- IX SBLP – Brazilian Symposium on Programming Languages
- May/24/2005, Recife, PE, Brazil, 3 hours

### Mini-course ".NET 2.0 Programming"

- IX SBLP – Brazilian Symposium on Programming Languages
- May/23/2005, Recife, PE, Brazil, 3 hours

### Mini-course "Introduction to the C# Language"

- VII SBLP – Brazilian Symposium on Programming Languages
- May/30/2003, Ouro Preto, MG, Brazil, 3 hours

### Mini-course "Introduction to the .NET Framework"

- VII SBLP – Brazilian Symposium on Programming Languages
- May/29/2003, Ouro Preto, MG, Brazil, 3 hours

### Administration of Windows NT Servers

- Catholic University of Minas Gerais
- May/23/1998 to June/06/1998, Institute of Computer Science of PUC Minas, 24 hours

### Instructor for the Extension Course in Systems Analysis of FUNDEP/UFMG

- Course: AS95-1; Disciplines: “Software Laboratory”, “Laboratory of Information Systems”, “Laboratory of Applications Development”, “Visual Development Environments I, II, III”
- April/05/1995 to November/09/1995, DCC/ICEx/UFMG, Belo Horizonte, MG, Brazil, 123 hours

### Software Development for the Windows Environment

- State University of Maringá - PET/CAPES
- December/14-16/1994, State University of Maringá, Maringá, PR, Brazil, 20 hours

### Laboratory of Applications Development

- Discipline for the Extension Course in Systems Analysis of FUNDEP/UFMG (AS 94-2) (FUNDEP - Foundation for the Research Development)
- November/07/ 1994 to December/01/1994, DCC/ICEx/UFMG, Belo Horizonte, MG, Brazil, 33 hours

### Mini-course “Programming for the Microsoft Windows Environment”

- 1st Computer Science Week of the UFV
- November/11/1993, Federal University of Viçosa, Viçosa, MG, Brazil, 6 hours

**Mini-course “Programming for the Microsoft Windows Environment”**

- XII JAI - Computer Science Update Journey, during the XIII Congress of the Brazilian Computer Society
- September/07-09/1993, Hotel Cambirela, Florianópolis, SC, Brazil, 6 hours

**Programming in the C/C++ Language for the Microsoft Windows Environment**

- FUNDEP - Foundation for the Research Development
- September/15/1992 to October/29/1992, DCC/ICEx/UFMG, Belo Horizonte, MG, Brazil, 60 hours

**Advanced Windows**

- FUNDEP - Foundation for the Research Development
- March/30/1992 to April/09/1992, DCC/ICEx/UFMG, Belo Horizonte, MG, Brazil, 24 hours

**Introduction to the Windows Graphical Interface**

- FUNDEP - Foundation for the Research Development
- November/26/1991 to December/17/1991, DCC/ICEx/UFMG, Belo Horizonte, MG, Brazil, 21 hours

**Introduction to VM/CMS**

- LCC/UFMG - Laboratory of Scientific Computation of UFMG
- Several occasions from November/1986 to July/1988, LCC/UFMG, Belo Horizonte, MG, Brazil, 20 hours

## Main Presented Lectures

### Real-world Machine Learning: How Kinect Gesture Recognition Works

- [Presentation](#) during Windows Build 2013
  - Jun/26/2013, San Francisco, CA, USA

### Computer Vision in the Kinect for Windows

- Part of tutorial “Towards Solving Real-World Vision Problems with RGB-D Cameras”, during [CVPR 2013](#)
  - Jun/23/2013, Portland, OR, USA
- Workshop of Industry Applications during XXV SIBGRAPI
  - Aug/24/2012, Ouro Preto, MG, Brazil

### Fundamentals of Distributed Systems

- Microsoft Engineering Excellence Forum 2011
  - Jun/08/2011, Redmond, WA, USA

### Cloud Security

- Microsoft Engineering Excellence Forum 2011
  - Jun/08/2011, Redmond, WA, USA

### Pragmatic Security (in the cloud and on Earth)

- Microsoft Fargo Engineering Day 2011
  - May/03/2011, Fargo, ND, USA

### Reusing Your Knowledge (in Portuguese)

- Unicamp – Universidade Estadual de Campinas
  - March/30/2010, Campinas, São Paulo, Brazil
- Microsoft Brasil, for students of IME/USP – Mathematics and Statistics Institute/University of São Paulo
  - March/31/2010, São Paulo, SP, Brazil

### Debugging Your Mindset

- NxtGenUG Fest 09
  - June/12/2009, Cambridge, United Kingdom

### Doing Software in Large Software Companies

- NxtGenUG Event
  - March/17/2009, Cambridge, United Kingdom

### AutoCollage: The experience of going from a paper to a product

- Laboratoire d'Informatique de Paris 6
  - January/16/2009, Paris, France
- XXI SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing – Invited Speaker
  - October/15/2008, Campo Grande, MS, Brazil
- IME/USP – Mathematics and Statistics Institute/University of São Paulo
  - October/14/2008, São Paulo, SP, Brazil

### Tutorial “A Service-Oriented Application for an Enterprise Datacentre”

- Research meeting “The Rise and Rise of the Declarative Datacentre”
  - May/12/2008, Cambridge, United Kingdom

### **Tutorial “Digital TV: The Software Components”**

- XX SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing
  - October/07/2007, Belo Horizonte, MG, Brazil
- Centro Federal de Educação Tecnológica de São Paulo
  - October/05/2007, São Paulo, SP, Brazil
- Universidade Estácio de Sá
  - October/04/2007, Rio de Janeiro, RJ, Brazil

### **SBTVD and Microsoft TV Technologies**

- XIX SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing
  - October/08/2006, Manaus, AM, Brazil

### **Applying academic knowledge in the Software Industry: caveats and comparisons between Brazil, USA and India**

- IX SBLP - Brazilian Symposium on Programming Languages
  - May/23/2005, Recife, PE, Brazil

### **Tutorial "Web Services and Implications in Software Development"**

- XVI SBES - Brazilian Symposium of Software Engineering
  - October/17/2002, Gramado, RS, Brazil, 3 hours

### **Tutorial “Development of Digital Image Processing Systems in the Java(tm) Language”**

- IX SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing
  - October/29/1996, Caxambu, MG, Brazil, 4 hours

### **Programming in C++ for the Windows Environment**

- Cycle of Lectures in Computation
  - October/18/1994, Catholic University of Minas Gerais, Belo Horizonte, MG, Brazil

### **Distributed Processing in Windows NT**

- 1st Microsoft Solutions Seminar
  - December/13/ 1993, São Paulo, SP, Brazil

### **Porting Programs in C++/MFC to Windows NT**

- 1st Microsoft Solutions Seminar
  - December/13/ 1993, São Paulo, SP, Brazil

### **Introduction to C++ Programming for Windows**

- 3rd Microsoft Developers Seminar
  - May/12/1993, São Paulo, SP, Brazil

### **Tutorial “Programming for the Windows Environment”**

- V SIBGRAPI - Brazilian Symposium of Computer Graphics and Image Processing
  - November/09/1992, Águas de Lindóia, SP, Brazil, 6 hours

### **Introduction to C++ Programming using the MFC Library**

- 2nd Microsoft Developers Seminar
  - November/05/1992, São Paulo, SP, Brazil