

Tiago Luís Brandão Magalhães Azevedo Fernandes

Curriculum Vitae - November 2007

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Date of birth: 15th July 1966 *Marital status:* married *Nationality:* Portuguese *Driving licence:* since 1985

Member nr. 36463 of *Ordem dos Engenheiros* (Portuguese engineers professional body).

Education

- MSc. Electrical and Computer Engineering (branch of Systems), edition 1990/91, Faculty of Engineering, University of Porto (www.fe.up.pt). The thesis ("Optimized ATM Switching Architecture") was presented in July 1994 and was awarded the classification of "Very Good" (maximum).
- Post-graduation course "Broadband Communication Systems" (360 hours) at FUNDETEC/INESC (www.inescn.pt) with final grade 17 / 20.
- Graduation ("licenciatura" – 5 years course) in Electrical and Computer Engineering (branch of Telecommunications), 1989, Faculty of Engineering, University of Porto, with final grade 15 / 20.
- Conclusion of high school in 1984 with final grade 18 / 20.

Additional Education/Skills

- Participation in the "COHiTEC Program" (entrepreneurship and high-tech innovation), promoted by COTEC (www.cotec.pt), the Porto School of Management (University of Porto) and the North Carolina State University, between February and June 2007.
- Conclusion of "Proficiency B" class at British Council and "First Certificate in English", University of Cambridge.
- Very good understanding of written and spoken French; rudimentary knowledge of Spanish and Italian.
- Attended between 1993 and 1995 a part-time course of Sacred Music and Piano organised by the Diocese of Porto.
- Enrolled between 1982 and 1985 in several short-term courses and workshops of Photography promoted by FAOJ (a Portuguese institute for Youth), and by Vision Without Borders.
- Certified trainer, registration CCPFC/RFO-07576/98 – "Conselho Científico-Pedagógico da Formação Contínua".

Relevant Professional Experience

- *Since October 2006:* lecturer at Universidade Lusófona do Porto (www.ulp.pt)
 - "Informatics for Management" chair.
- *Since January 2002:* freelancer consultant - telecommunications and computer networking, web presence, intranets, organisational optimisation, content management systems. Examples of assignments:
 - Faculty of Pharmacy – University of Porto
 - analysis of information flows
 - specification of new document management procedures, tools and databases
 - LerParaVer.com – project financed by the Portuguese Ministry of Science and Technology
 - research and technical choice of content management tools suited for the needs of visually impaired people
 - design of services and data structures
 - implementation and technical support to the service in the Internet
 - Portuguese Catholic Church
 - technical management of several domain name servers and technical assistance to WWW content managers.

- *Since November 1999:* President and CEO - Terras do Vento Norte, CRL (a multi-sector cooperative - primarily housing and consulting services)
 - market research and analysis, acquisition and management of real estate, especially in the Porto Historical Centre.
- *April 2001 - December 2002:* consultant to the Administration Board of the Vila Nova de Gaia Hospital Centre (Ministry of Health), coordinating Informatics and Telecommunications on behalf of the Board:
 - supervision of the TCP/IP network operation team and procedures
 - TCP/IP – Ethernet network redesign (spanning two campuses) in collaboration with a team of experts from the Ministry of Health
 - new main Unix servers specification according to the software to be installed (database servers and custom applications), Request For Proposals and final technical choice
 - establishment of procedures for equipment procurement in coordination with the Procurement Department
 - preparation of Request For Proposals and assessment of proposals
 - communication / coordination between the Administration Board and the clinical / administrative / technical departments (“diplomacy”, most of the cases)
 - establishment of management routines concerning the voice and data communications equipment and software
 - assessment of requirements and quality of service as perceived by the users.
- *January 1994 - December 2001:* manager/partner - ETC - Engenharia de Telecomunicações, Consultores, Lda. (provider of consulting services in Telecommunications and Networking to several clients in the private sector and local public administration bodies)
 - website planning, development and promotion
 - organizational reengineering, based on the analysis of information flows and database structures
 - network and communication systems design and implementation
 - information data structures design
 - specification of technical procedures and routines
 - designed and configured the technical solution (server, operating system and network connection) for www.7arte.net, winner of the Jetnet/Telepac prize for its category in all editions while the prize existed.
- *October 1995 - August 2000:* Director, Department of Information Systems and Technologies, Portuguese Catholic University – Porto (www.porto.ucp.pt), where also had teaching responsibilities:
 - design and specification of the LAN for the campus of Foz/Porto and its connection to Internet
 - choice of networking equipment and servers, negotiation of proposals with vendors and final decision
 - planning and technical management of the installation, configuration and test of cabling, networking equipment and servers (Linux and Windows NT)
 - assessment and choice of provider proposals for Internet connection of the campus and final decision (IP/Frame-Relay)
 - planning and technical management of the installation, configuration and test of the connection to the Internet, in coordination with the chosen provider.
 - specification of user PCs after establishing requirements with the users, assessment of proposals from vendors and final decision
 - establishment of management routines concerning the voice and data communications equipment and software
 - implementation and supervision of a user support service and of a network operation service (teams of technicians)
 - coordinated the participation of the University in the TEDLARA Project - Transnational Evaluation of Open and Distance Learning Practice (ref. UK/98/1/79004/EA/III.2.a/FPI) of the European Commission Leonardo da Vinci Programme.

- *October 1994 - September 1995*: Network Manager, Department of Information Systems and Technologies, Portuguese Catholic University - Porto.
 - Configuration and management of PCs, MACs, workstations, Unix/Linux and Windows servers, and TCP/IP networks
- *October 1989 - December 1993*: researcher at INESC - Instituto de Engenharia de Sistemas e Computadores (Porto) (www.inescn.pt) in the Integrated Communication Networks Group - worked in the following RACE projects, financed by the European Commission.
 - RACE 1011 (BCPN) - Workpackages 3 - "Switching", 5 - "Integration" and 8 - "Broadband LAN/MAN". Coordinated the development and implemented critical blocks of a five-port ATM switch for the project demonstrator in Rome (Ericsson FATME), also integrated later in the RACE 1056 (BIPED) demonstrator in Madrid (Alcatel SESA). Studied the interconnection of a 1 Gbit/s LAN (CRMA II) to the ATM network.
 - RACE 1035 (CPN) - Workpackage 3.2 - "Interworking". Studied and presented solutions for interconnecting LAN/MAN networks to ATM networks; specified a "header processor" for ATM traffic.
 - RACE 2068 (LACE) - Workpackage 2 - "Demonstrator". Participated in the initial specification of an adaptor to access an ATM network for an "SBus"-based Unix workstation.
- *January 1989 - December 1993*: Trainer and/or coordinator of professional training courses promoted by FUNDETEC and by the Porto Industrial Association.

Reference Works

Hypermatrix

Hypermatrix is a novel packet switching architecture (based on the MSc. thesis mentioned below) which is specially suited for systems with a large number of ports and/or very high volume of traffic in broadband communication networks. A business project based on the application of this technology was one of the winners in 2004 of the "Nortinov - contest of business ideas" promoted by the Portuguese Agência de Inovação – www.adi.pt - (a government innovation agency). It was improved at the COHITEC Program, involving the Porto School of Management (University of Porto) and the North Carolina State University – phase I took place between February and June 2007, and phase II will follow later. The business plan will be presented to venture capital companies in order to raise financing.

MSc. Thesis – "Optimized ATM Switching Architecture"

Definition and specification of a novel architecture for ATM switches with cost of order $N \cdot \log^2 N$, being N the number of ports. A prototype was proposed, as well as methods for later evaluation of this architecture suited for broadband communication networks.

Main Published Papers, Reports, Articles and Blogs

- Tiago Azevedo Fernandes, *"Os Empreendedores, a Cultura e a Ética: erros sistemáticos e novos caminhos"*, "Porto Cidade Região" Seminar, University of Porto, February 2004.
- Tiago Azevedo Fernandes, *"A Cafeteira e a Soberania Nacional"*, "Relações Internacionais" Magazine, University of Minho, March 1995.
- Tiago Azevedo Fernandes, *"Arquitetura Optimizada de Comutação ATM"* ("Optimized ATM Switching Architecture"), MSc. thesis in Electrical and Computer Engineering, Faculty of Engineering, University of Porto, April 1994.
- Mário Jorge Leitão, Tiago Azevedo Fernandes, M. De Sanctis, *"A Self-routing ATM Switch for Small Customer Premises Networks"*, 2nd. International Conference on Local Communication Systems, Palma - Spain, June 1991.
- Tiago Azevedo Fernandes, Mário Jorge Leitão, *"Building Block Description: ATM Switch"*, RACE 1011 (BCPN) A3/INE/034.3, February 1991.
- Aníbal Ferreira, Tiago Azevedo Fernandes, Mário Jorge Leitão, *"Perspectivas para a Transmissão de Áudio Digital de Alta Qualidade na RDIS"*, "1º Workshop sobre I&D de Produtos para a RDIS", Lisbon, April 1990.
- BLOGS: *"A Baixa do Porto"* – www.porto.taf.net, *"TAF-Opinião"* – www.taf.net/opiniao (both in Portuguese)

Patents

- *“Comutador para redes de comunicação com modo de transferência assíncrono”* (“Switch for asynchronous transfer mode communication networks”), Portuguese patent nr. 101546.

Urban Rehabilitation

A parallel line of work, since 1998, has been centred on the study of the problems of the city of Porto and corresponding solutions, concerning namely the improvement of public spaces and infrastructures, the promotion of new sustainable economic activities favouring social integration, the preservation of heritage, and specially the recycling of private buildings. Specific investment opportunities have been analysed and the second project is now under way in the Historical Centre of Porto.

Community and Volunteer Work

Photography

- Belonged between 1983 and 1987 to the Photography Group of FAOJ/Porto (now Institute for Youth).
- Organised and taught in several Photography courses since 1985.
- Organised and participated in several exhibitions, slide shows and contests since 1983.
- Took part in the organisation and promotion of the Vision Without Borders initiative since September 1985 until the end of 1986, under which have been made collective exhibitions in Bruges (Collège d’Europe), Porto (UNESCO Centre), Brussels (Fondation Roi Baudouin) and Paris (Salon Photo, Video, Cinéma - Palais des Sports).
- Manager of the students union photo lab at the Faculty of Engineering, University of Porto, in 1986/87.

Civic Intervention

- Created and manages since April 2004 the “A Baixa do Porto” (“Downtown Porto”) blog, the most prestigious online forum about urban planning and regional development, where members of the local Government, representatives of important regional organizations, distinguished specialists and ordinary citizens jointly discuss the issues that affect the Greater Porto.
- Regularly promotes and participates in debates and round tables concerning urban planning, community development, entrepreneurship and regional politics.
- Created and moderated in 1998, on behalf of the Catholic University, the most successful online open forum about the Abortion Referendum which took place in Portugal at the time.
- Co-organised in 1997 a national online campaign in favour of the XFM radio station.

Religion

- Organises and supports activities for young people in the Parish of Cedofeita, Porto, since 1980.
- Created, promoted and performed the initial management of the main Portuguese Catholic Church webservers (www.ecclesia.pt, www.diocese-porto.pt, www.patriarcado-lisboa.pt, www.voz-portucalense.pt, and many others) in coordination with the Portuguese Conference of Bishops and the involved Dioceses.
- Maintains regular collaboration with several organisations of the Catholic Church in the areas of Education, Civic Intervention and Internet.

Other

- Member of the Finalists Commission of Electrical and Computer Engineering at the Faculty of Engineering, University of Porto, in 1988/89.
- Manager of the informal investment fund “MJC-Invest” (belonging to a small group of young private investors), Porto, between November 1987 and December 1991.