CURRICULUM VITAE
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<u>Summary and current situation:</u>

I have been worked as an independent statistical consultant since 2005, except for a recent period in which I worked as technical leader within an analytics-oriented department at major Spanish consulting firm specializing in customer intelligence and risk management.

I have been mostly involved in applications of statistics into a variety of business problems in different areas although the main one has been the banking, risk management, business intelligence and analytical marketing. However, I have also had customers in biostatistics and other science-related areas.

Over my career, I have progressed from being a technological/statistical consultant into managing teams of consultants in these areas, thus properly leveraging my skills. As a manager, I have stressed the need to nurture the natural skills and critical thinking of my team members in order to help them achieve fast professional growth. In highly scientific and technical fields, I extremely value the quality of my teams and strive to obtain the most from each person. But also, from the technological side, I have succeeded into building and promoting efficient, low cost, technological platforms in order to extract the maximum value from the technology.

From a technological point of view, SAS and R have been my main development platforms. I have extensively worked with SAS Credit Risk Management Solution for Basel II, but also with other related tools such as SAS Enterprise Miner in credit scoring and fraud management, SAS Risk Dimensions in market risk projects, and I have extensively developed code in SAS Base and used procs from SAS Stat and SAS OR.

I am a R user since 2002. I have used it in both academic and business environments developing code and implementing algorithms in finance, biostatistics, and other fields of statistics. I have developed commercially distributed R packages as well as used R data mining capabilities in consulting projects. Besides, I have also worked with other tools such as S-Plus, Clementine, Weka, virtually all major RDBMS, and a bunch of computer languages such as Java, C/C++, Python, Matlab, etc. I am fluent in Windows, Linux, and other UNIX flavours, such as AIX, Solaris, and HP-UX. Moreover, I have set up and administered a number of Linux servers running different versions of Debian, Fedora, and Mandrake.

In this CV you will find a history of good educational background combined with long and successful work experience in Spain and abroad. I would say I have been successful in all the positions I’ve had, but I leave it up to the reader to judge. You will find that I have experience working for names such as SAS, Grupo Santander, everis, Gas Natural, Endesa, Banca Intesa, etc.

Work experience: major projects

My past projects time structure may seen complicated as they have overlapped given my freelance status. It should be remarked that I am only listing here major projects, ignoring minor engagements (statistical support for thesis, short time studies, etc.) in which I have been involved as part of my freelance career.

Feb14 – Feb15 **eBay Inc., Zurich, Switzerland,** www.ebay.com
Data scientist on an advanced analytics team working in marketing projects in big data environments (Spark, Hadoop, Teradata, R)

Sep13 – Nov13 **BBVA Innovación, Madrid, Spain,** www.bbva.es
Collaborated in two projects (one in marketing and another one in credit risk) for BBVA Innovación in a big data environment: MongoDB, Hadoop, Hive & R.

Feb13 – Apr13 **Instituto de Empresa, Madrid, Spain,** www.ie,edu
Taught a course on Data Driven Methods in Environmental Management and Conservation in the Master in Global Environmental Change at the Instituto de Empresa including statistics, R programming, and graphics.

Feb10 – Aug13 **BBVA, Madrid, Spain,** www.bbva.es
Technical analysis and for the development of a new informational infrastructure in Spain's second largest bank including performance analysis, leveraging of technological and business requirements, data volume management, etc.

Feb09 – ... **Freelance Consultant,** www.datanalytics.com
Freelance Consultant specialized in applications of statistics to various industries, such as risk management, analytic marketing, biostatistics, etc.

Mar09 – Feb10 **Everis, Madrid, Spain,** www.everis.com
As the technical leader of an elite group of consultants, risk experts and data miners, I have been in charge of orienting their efforts into the successful implementation of a number of highly demanding projects in business intelligence and risk management, including fraud and churn detection in cable TV and telco companies, cross selling of financial products and risk management solutions in operational (top down models for aggregation of operational risk via copulas and others) and credit risk (model validation and stability, credit scoring for mortgages, and titulization engines). Under my guidance, a new software platform for the analysis of statistical data has been developed, which continues to be expanded in order to provide support for our projects.

Nov08 – Jan09 **United Bank Limited, Karachi, Pakistan,** www.ubl.com.pk
Implementation of a Basel II compliant risk management system at UBL headquarters at Karachi. SAS CRM solution for Basel II was configured for the standardized approach under the Central Bank of Pakistan guidelines.

Feb08 – Sep08 **Krung Thai Bank, Bangkok, Thailand,** www.ktb.co.th
Technical leader for the implementation of a Basel II system in the third largest bank of Thailand managing a team of SAS consultants with direct delivery responsibilities. Work included the customization of the SAS Basel II solution to the Bank of Thailand regulations and the bank internal systems and practices and coordinate the efforts of a team of consultants in order to deliver a satisfactory solution timely and within budget. Standardized approach was implemented together with the foundation of the credit scoring infrastructure for the main portfolios for later migration into the Advanced Approach.

Dec07 – Jan08 **United Bank Limited, Karachi, Pakistan,** www.ubl.com.pk
Assessments for the implementation of a Basel II compliant risk management system at

UBL headquarters in Karachi including compliance and credit scoring modelling considerations.

Jan07 – Mar09 **Persei Consulting, Madrid,** www.persei.es
Statistical consultant involved in a variety of analyses of medical information and development of new value-adding statistical tools to the company range of e-health services.

Nov06 – Nov07 **Barclays, London,** www.barclays.co.uk
Risk Management Consultant in Basel II project at Barclays Worldwide Headquarters in Canary Wharf, London. Customizations required within SAS Credit Risk Solution for Basel II analytic engine for compliance with FSA and CRD norms extending Basel II accord regulations.

Sep06 – Oct06 **Privredna Banka Zagrev, Croatia**, www.pbz.hr
Risk Management Consultant in Basel II project. PBZ, a subsidiary of Banca Intesa, was interested in determining the right regulatory approach for a number of their banking products, being able to adequately map them into SAS Credit Risk Management Solution, and to have a number of changes to the underlying code of this tool since the products they market in Croatia have peculiarities not found in their Western European counterparts.

Jul06 – Jul06 **Bank of Spain, Spain**, www.bde.es
Implemented Nelson-Siegel model for interest rate forward curves and their dynamics using SAS technology: SAS Base, SAS OR for least squares optimization of the model parameters and SAS Risk Dimensions for backtesting and simulation.

Jul06 – Jul06 **Grupo Santander, Spain**, www.gruposantander.com
Risk Management Consultant. Supervised development of a project of Montecarlo simulation of a multifactor credit management model. SAS base and SAS IML were the major tools, although R was also used for testing and benchmarking purposes.

Jun06 – Jun06 **Grupo Gas Natural, Spain,** www.gasnatural.com
Risk Management Consultant. Developed a pre-sales model in risk management for the natural gas market in Spain spanning over all operations of purchases and sales of natural gas, and also, the management of financial debt. It was developed in SAS Risk Dimensions.

Apr06 – Aug06 **Grupo Santander, Spain**, www.gruposantander.com
Risk Management Consultant in Basel II project. Grupo Santander does market an extensive portfolio of products and demands highly sophisticated risk approach for all of them. I worked in the mapping of their database of banking products into those considered by SAS Credit Risk Management Solution, performing the required code changes into the engine, supervising accuracy and adequacy of results, controlling and tweaking code and parameters for greater performance, and improving the optimization engine for optimal capital expenditure. I worked on both Windows and AIX platforms.

Jan06 – Mar06 **Carrefour, Spain,** www.carrefour.es
Data Mining Consultant in Analytic Marketing project. Carrefour Spain was starting to analyse data from their pilot experience with fidelization cards in order to redesign their coupon, marketing, interaction channels with customers, etc. Models for cross selling, churn, etc. were set up. These were going to be used in a customer LTV estimation later on. Matlab and IBM Intelligent Miner on Windows and AIX were used for the construction of these models.

Nov05 – Jan06 **La Fábrica Interactiva, Spain,** www.lafabricainteractiva.es

Developed and marketed an environment for the creation of sudokus at various degrees of difficulty. In this project, Javascript, Python, and Unix Shell Scripts were used.

Nov05 – Sep06 **Centro de Investigación del Cáncer, U. of Salamanca, Spain,** www.usal.es
Biostatistician. Analysis of Affymetrix arrays from meningiomas for classification and life expectancy of cancer patients. I was in charge of experimental design, classification, and prediction as well as making the results ready for publication in a scientific journal. Publication date, as yet, unknown. The technological platform was Bioconductor and R on a Linux Platform.

Nov05 – Dec05 **Integromics, Spain,** www.integromics.com
Biostatistician. Analysis of Advanced Biosystems arrays for a number of their customers, mostly cancer research centres. Used Bioconductor and R on a Linux platform. Developed the statistical core of their RealTime StatMiner product.

Jul05 – Dec05 **Grupo Gas Natural, Spain,** www.gasnatural.com
Data Mining Consultant in LTV project. Gas Natural was interested in finding out the life-time value of their customers and segmenting them into groups that would help them direct their marketing efforts. Data mining models for all aspects of customer interaction with the group that would affect their value (churn, expenditure, cross selling of electricity and maintenance, etc.) were developed with Matlab and R on Windows platform. LTV estimations were implemented in PL-SQL.

Jul05 – Mar09 **Integromics, Spain,** www.integromics.com
Biostatistician and developer. Developed statistical libraries in R for the analysis of microarrays and other genetic research tools. These libraries where linked via DCOM with Spotfire (www.spotfire.com) and marketed to a number of research centres worldwide. Development, analysis, and maintenance are still in progress.

Jul05 – Mar09 **Freelance Consultant,** www.datanalytics.com
Freelance Consultant specialized in applications of statistics to various industries, such as risk management, analytic marketing, biostatistics, etc.

Feb05 – Jun05 **Bank of Spain, Spain,** www.bde.es
Risk Management Consultant. I worked in conjunction with users and IT specialists in the development of an improved risk DW in order to adapt the existing one to the new Basel II requirements at the bank. ETL processes using SAS DW Studio, SAS Base, and SAS native interface to Oracle were updated and tweaked for performance. The existing Oracle data base structure was modified and queries were optimized for performance. A new security framework on AIX. SAS, Oracle and Unix scripts were used on an AIX platform.

Feb04 – Jan05 **SAS Institute, Spain,** www.sas.com
Professional Services Consultant. As a consultant in SAS I was involved in a number of projects and presales in several areas, mostly in Risk Management and Data Mining. Among all SAS products, I worked mostly with Risk Dimensions, SAS Entrerprise Miner and the traditional SAS Base, SAS Stat, SAS OR, etc. I was involved in both data mining and risk management consultancy. In data mining, I worked in two major projects: a credit card fraud detection project for Sermepa, S.A., Spain, (www.sermepa.es), and a mobile phone fraud detection project at Telefónica Móviles, S.A., Spain (www.telefonicamoviles.es). In Risk Management, I worked in the development of several market risk models for energy markets which were presented at all the four major electricity companies in Spain: Endesa (www.endesa.es), Iberdrola (www.iberdrola.es), Fenosa (www.unionfenosa.es), Hidrocantábrico (www.h-c.es). The model at Endesa gave rise to a project that involved the management of not only energy positions and transactions, but also a complex portfolio of debt instruments. Sporadic consultancy on risk management issues in banking and asset management was also provided.

Nov03 – Jan04 **BigWorld, Spain, www.bigworld.es**
Data mining consultant. Analysis of customer data bases and management of multichanel marketing campaigns.

Jul01 – Nov03 **Sigma Consultores Estadísticos, USA, www.consultoresestadisticos.com**
Freelance Statistical Consultant. Analysis of data on master and Ph.D. thesis, statistical expert witness in trials, etc. It is now extinct.

Sep00 – Aug03 **Librería Don Pelayo, USA**
Importation and sales of scientific literature, mostly in mathematics, physics, and engineering on eBay stores. Books were mostly imported from a Moscow provider, Editorial URSS, (www.urss.ru), which markets old classic Mir and Nauka scientific collections alongside with their own catalogue.

Aug98 – May03 **Washington University, USA**
Teaching Assistant in the department of mathematics. Taught classes on calculus, statistics, applied statistics, SAS, advanced mathematics, etc.

Work experience: minor projects

Together with my work in the major projects listed above, over the period I have worked as independent statistical consultant (Jul 2005-Mar2009; Feb2010-...) I have worked in a number of statistical related minor, short term projects in different areas such as:

- Statistical analysis of data for thesis and publications in areas as diverse as finance, sociology, archaeology, and oncology
- Analysis of survey and marketing data
- Mathematical optimization of business processes
- Expert advice in legal cases

Education

1998 – 2003 **Ph.D. in Applied Statistics (ABD status)**
Applied Statistics, Washington University, St. Louis, Missouri, USA
Dissertation on biostatistics and cancer research and classification according to genomic data. However, my major interest at the time was finance and financial applications of statistics and probability theory. As a consequence, I acquired a solid background on these areas.

1997 – 1998 **Masters Degree in Mathematics**
Pure Mathematics, Washington University, St. Louis, Missouri, USA

1992 – 1997 **Licenciatura en Matemáticas (B.A.)**
University of Zaragoza, Spain

Professional Training

Sep06 SAS Credit Risk Management, SAS Institute, Brussels, Belgium

2004 – 2005 Several courses at SAS Institute, Spain, on data mining and SAS programming

2000 – 2003 Graduate and undergraduate courses on economics, macroeconomics, and advanced finance, Washington University, St. Louis, Missouri, USA

Courses Taught

Dec. 2008	An Introduction to R, at the Centre d'Investigació Cardiovascular (www.csic-iccc.org).
Jul. 2012	SAS for risk management, ING Direct, Spain
Jan. 2013	SAS for risk management, ING Direct, Spain
May 2013	Introduction to R, Indra, Spain
2014 - ...	Introduction to R and Recommender Systems. UTAD (www.utad.com) Data Science Master
2014 - 2016	Introduction to R. EOI (www.eoi.es) Big Data master programme.
2015 - ...	Introduction to R, Intermediate Statistics, Unsupervised Models & Recommender Systems. UTAD (www.utad.com) Data Science Master (2nd edition)
2015 - 2017	An introduction to R (30 hours) at Kschool (www.kschool.com). Several editions.
2015	An introduction to R (12 hours) taught in 3 several venues (companies, etc.)

Conferences

Nov. 2013	Big data analysis, Workshop at BigDataSpain conference in Spain.
Nov. 2013	Statistics as a profession, Celebrating the International Year of Statistics, Mallorca, Spain
Nov. 2013	Analysis of semi-big data, Mallorca, Spain
Sep. 2013	Simpson's Paradox, 6 eiiic, Universidad Complutense, Madrid, Spain (http://www.eiiic.org/)

Statistical modelling skills

- Multivariate statistics
- Linear and nonlinear statistical modelling
- Stochastic differential equations with applications to finance and pricing of derivatives and other complex finantial instruments
- Simulation and Bayesian approaches to modeling
- Time series analysis with applications to finance
- Biostatistics and genomics
- Data mining (neural networks, regression & classification trees, random forests, etc.)

Technical skills

- Operative Systems: Linux (Debian, Ubuntu,...), Windows, UNIX (AIX, Solaris)
- General Purpose Computing Languages: Python, Java, C, C++, Unix Shell, Matlab
- Statistical Computing Languages: R, S-Plus, SAS
- Statistical Packages: SAS, SAS EM, Clementine, Weka
- DBMS's: Oracle, SQL Server, PostgreSQL, MySQ
- Other: system administration, network configuration, and security in UNIX environments

Language skills

- Spanish, mother tongue
- English, excellent
- French, good

Strengths

- Excellent technical and analytical skills
- Deep knowledge of several industry sectors, specially banking and finance
- Fast and good understanding of new business problems and environments
- Good communication skills