

Dr GIUSEPPE INSANA – 墨白

Data science, biology and linguistic expert, business consultant
Ph.D. (Cambridge), M.Sc., B.Sc.



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CORE SKILLS:

INNOVATION AND CREATIVITY

- ◆ Highly-motivated self-starter who can deliver results without close supervision
- ◆ Ability to rapidly learn an extremely wide range of skills and subjects
- ◆ Early adopter of new technologies
- ◆ Able to predict trends and ideas, often with independent discovery and foresight
- ◆ Strong sense of ownership, urgency, and drive

ORGANIZATIONAL MANAGEMENT

- ◆ Ability to prioritise work and meet deadlines
- ◆ Sharp analytical skills and attention to detail
- ◆ Great team player, able to work effectively with others as well as individually
- ◆ Setup of businesses overlooking and managing all aspects, from idea to maturity, through design, sourcing, building, training, promotion, up-selling

SUMMARY

Passionate creative talent with incredible learning and problem solving abilities, excellent communication, organizational and managerial skills, more than 20 years experience across both business and academic settings.

A data scientist and knowledge engineer with the necessary alchemy of both a scientific mind (rigorous experimentation and fluid curiosity) and a "hands-on" passionate attitude to software and technology, backed by excellent educational background with M.Sc. and Ph.D. in bioinformatics.

Extensive knowledge of biology, IT, linguistics (both theoretical and practical) and cognitive science makes him well suited to address projects in bioinformatics, machine learning, NLP and NLU.

Direct 13+ years experience in business management and business consulting provides an additional "grounding" to real case scenarios and hence the ability to focus on efficiency for actionable insights and solutions.

Well connected to international experts in bioinformatics, machine learning and genomics.

EDUCATION

✧ Ph.D. degree in Bioinformatics

[University of Cambridge](#) & [European Bioinformatics Institute](#) – Cambridge, UK

01/2000–03/2004 (certificate issued 16.10.2004)

Official duration: 3.5-4 years

Research in Genomic analysis and Human variation within the Ensembl group under the supervision of Heikki Lehtväslaiho, Liisa Holm and Michael Ashburner

Thesis: "DNA phonology: investigating the codon space"

Note: I was awarded a full paid four year Ph.D. scholarship from EMBL ([European Molecular Biology Institute](#))

✧ M.Sc. + B.Sc. degree ('laurea') in Biotechnology

[University of Verona](#) – Verona, Italy

09/1993–07/1999 (final exam 22.7.1999; certificate issued 29.7.1999)

Official duration: 5 years

Attended and successfully completed 30 subjects

Research in bioinformatics and protein structure modelling under the supervision of Henriette Molinari and Federico Fogolari

Thesis: "Molecular modelling of plant light-harvesting proteins"

Final grade: 110 (top score)

Note: one of the first in Italy to get a degree in Biotechnology and to do research in Bioinformatics

✧ B.Sc. degree in Economy and Business Administration

[University of Verona](#) – Verona, Italy

01/2009–04/2011 (final exam 20.04.2011; certificate issued 17.05.2011)

Official duration: 3 years

Successfully completed 29 subjects

Research in organizational theory and crowdsourcing under the supervision of Lapo Mola

Thesis: "Crowdsourcing: a critical analysis of a new paradigm in business management"

Final grade: 107 (top score 110)

Note: finished in just 2 years

OFFICIAL QUALIFICATIONS

- 01/2015 Registered to the [Italian national Registry of Statutory Auditors](#)
- 11/2013 Registered with the [Order of Chartered Accountants of Vicenza, Italy](#)
- 10/2013 [State exam \(EQF level 7\)](#) for habilitation to the professional body of Accounting Experts; [University of Verona, Italy](#)

WORK EXPERIENCE

- 04/2018– ongoing [Bioinformatics and business consultant](#)
Company: Vangenes LTD, Xiamen, China
Industry sector: Genomic analysis
Notes and skills: cost benefit analysis, bioinformatics, machine learning, strategy
Highlights: evaluation of viable business growth strategies and of the implementation of a bioinformatics and machine learning reporting and phenotype prediction pipeline for a genomics company currently expanding into WES analysis
- 04/2014– ongoing [Cryptocurrency consultant](#)
Notes and skills: Setup and sale of mining rigs, full nodes, wallets and trading accounts for clients
- 12/2012 – ongoing [Game designer and programmer](#)
Company: XTeam Software Solutions Srls, Rovigo, Italy
Industry sector: Software
Notes and skills: design of strategic videogames (three already published, one in the works) and VR software; design and coding of game mechanics, documentation, AI and back-end multiplayer system
Highlights: programmed in JavaScript a full prototype implementation of a strategic board game; designed and programmed videogame AI with an holistic overseer and fuzzy FSM agents; designed and implemented an online cross-platform multiplayer server; two successful steam greenlight campaigns
- 04/2010– ongoing [Business consultant and accounting professional](#)
Organization: Chartered Accountants I&DV, Schio, Italy
Industry sector: Accounting, business, finance, auditing, consultancy
Notes and skills: International contracts, tax litigation, business management, investments
Highlights: negotiated joint venture opportunities between major Austrian and Italian companies; resolved high value tax litigation claims with original insight
- 05/2001– ongoing [Founder and director](#)
Organization: MediaGlyphs Project for international communication
Industry sector: Research and experimental development services on linguistics
Notes and skills: Founder and director of an open source project for international communication and multilingual teaching/learning materials. Responsible for general design, technical development, coordination of collaborators... Database management, editing tools, web design, graphic design, Perl+Php+JavaScript coding, automatic language processing,

BUSINESS DEVELOPMENT AND STRATEGY

- ◆ Consultant for established companies and start-ups
- ◆ Negotiated international contracts and joint ventures
- ◆ Successfully solved tax litigations with claims of up to 6M euros

LEADERSHIP

- ◆ Experience leading both local and international teams, driving operational excellence and best practice
- ◆ Managed businesses and staff in Italy and in China
- ◆ Excellent communication abilities to both peers and non-technical people

KNOWLEDGE

- ◆ Extensive academic level knowledge in a great number of subjects: biology, computer science, linguistics, data science, economy, business administration, cryptography, design.

KEY EXPERTISE AREAS:

- Data science
- Computational biology
- Linguistics
- Business strategy

language annotation, ontologies, NLP, semantic relation framework

01/2009–03/2009 **Bioinformatics consultant**

Company: Professional Clinical Software GmbH, Klagenfurt, Austria

Industry sector: Research and development on natural sciences and engineering

Notes and skills: Development of data base schemes and data access layer

Highlights: worked as part of Pocemon.eu (FP7 European project)

12/2006–11/2008 **General Manager and Owner**

Company: Sanya G&B Tourism Development LTD, Sanya, China

Industry sector: Hotels and restaurants

Notes and skills: Planning, design, startup setup and full-time management. Customer care, personnel management and training, technical design, planning of promotion, market analysis, marketing, resource management, costing, accounting, relationships with institutions, purchasing, processes' management and optimisation...

Highlights: successfully overseen the design, construction, setup and management of a novel business enterprise with own company of Chinese law

04/2005–12/2006 **Manager and shareholder**

Company: Sanya FS Tourism & Culture LTD, Sanya, China

Industry sector: Hotels and restaurants

Notes and skills: Startup setup and full-time management. Customer care, personnel management and training, resource management, costing, accounting, relationships with institutions, purchasing...

Highlights: successfully overseen the establishment, setup and management of the first international restaurant of Sanya

10/2004–06/2005 **English university lecturer**

Organization: Sanya Zhuoda tourism college & Haikou college of economics and vocational technologies, Hainan, China

03/2004–01/2005 **Visiting assistant professor**

Organization: Chinese academy of tropical agricultural sciences / South China university of tropical agriculture, Hainan, China

Industry sector: Public university education at master level

Notes and skills: I taught the two post-graduate courses "Molecular Biology" and "Bioinformatics" to M.Sc. students, giving bilingual (Chinese and English) lectures, designing the courses and creating the teaching material

Highlights: one of the first foreign bioinformatics professors in China, some of my students are now holding important positions in BGI Shenzhen and Chinese universities

05/1997–11/1999 **IT consultant, sys-admin and web designer**

Company: A.T. Informatica sas, Schio, Italy

Industry sector: Internet outsourcing and WWW

Notes and skills: System installation & management, web design, CGI programming

PLACEMENTS WHILE ATTENDING UNIVERSITY

11/2003–12/2003 **Manager of promotional activities**

Company: Sheraton Resort / Recreation department, Sanya, China

Industry sector: Tourism

Notes and skills: Management of the setup and promotion of new scuba diving services. Marketing, multicultural communication, customer service, cultural mediation

02/2002–12/2002 **Scientific consultant and programmer**

Organization: Sonic Genes Project, Wellcome Trust Science on Stage & Screen, UK

Highlights: mentioned in an article on the Economist (see *Publications and Mentions*, below)

02/2001–06/2001 **Chess teacher**

Organization: St.Paul's primary school, Cambridge, UK

10/2000–06/2002 **Cognitive science research**

Notes and skills: pattern recognition, Bongard problems

Highlights: analysed, solved and designed Bongard problems; assisted Harry Foundalis (of Douglas Hofstadter group) on his research using machine learning approach to teach computers to solve BP; discovered together with him whole classes of *meta Bongard problems*

09/1994–04/1996 **HP-UX system manager**

Organization: Faculty of science, University of Verona – Verona, Italy

Notes and skills: my tasks included maintaining the OS, protecting against penetration, solving users' issues, creating online services.

Highlights: I learned Unix in my spare time while at university – without any previous knowledge of it – to a level of proficiency such that in less than a year I became the System Administrator of the computer laboratories of the Biotechnology faculty. Designed and implemented one of the first online environments for teleconference meeting between Italian biologists

COMPUTER SKILLS

- **Programming:** excellent in **Perl**, **Php**, **JavaScript**; proficient in **Python**; basic in **Julia**; started coding since I was 9 years old
- **Bioinformatics** tools & techniques; biological and linguistic data annotation and manipulation
- **Machine learning**, pattern recognition, data cleaning, modelling and mining
- **Data science** libraries (matplotlib, numpy, pandas, scipy, sklearn, keras/tensorflow..)
- **System design, installation and administration** (I designed, setup and deployed several custom cloud solutions, with virtual servers, encrypted cross-platform syncing, device positional tracking, distributed backup)
- **Front-end and back-end** development, web design, database design, graphic design
- **Cryptocurrency:** experience trading and mining cryptocurrencies since 2011
- **Computer graphics**, scalable vector graphics, raytracing, 3d modelling, font and logo design
- **OS:** DOS, Windows, Unix/Linux, Android
- **Databases:** flatfile (own custom backends), MySql
- **Accounting, reporting, interactive computing** and **version control software** (cvs, git)
- **Word processing:** vi, Word, LibreOffice

LINGUISTICS SKILLS

Languages known:

- **Italian:** mother tongue
- **English:** excellent

(February 2000 computer-based TOEFL score: 283, equivalent to 657 paper-based)

I studied English since I was 5 years old. I lived in England for four years, attended UK university courses, worked in international research environment, wrote my Ph.D. thesis in English

- **Mandarin Chinese:** fluent

I can use the language for all types of work situations. I can also read it and type it.

I lived in China for five years, taught scientific subjects at university using both Chinese and English; I also managed two businesses and my own company, always using Chinese for

communication with staff, government, customers and suppliers. Married to Chinese national

▪ **Spanish – good mastery**

(July 2009, 88/100 Spanish B1 test, University of Verona Linguistic Centre)

▪ **Japanese & ▪ French: daily conversational**

▪ **Russian & ▪ Bulgarian: simple communication**

Linguistics competences:

Phonetics, phonology, morphology, syntax, computational linguistics, generative grammars, NLP, NLU, practical applied knowledge, inter-linguistics, language design of conlang and auxlang, intercultural mediation, design of language learning material, language teaching

Frameworks for NLP:

Spacy, Link grammar, NLTK

Cognitive science, semantic relation frameworks, knowledge representation, ontology engineering, taxonomies, inference reasoning engines, hypergraphs

OTHER INTERESTS

Photography (exhibited in UK and in Italy), cryptography, design, music, sea sports, sword sports, board sports, go/weiqi

PUBLICATIONS AND MENTIONS

● [“Crowdsourcing: a critical analysis of a new paradigm in business management”](#); **B.Sc. thesis**, Verona 2011

– (cited) [“Phaeaco: A Cognitive Architecture Inspired by Bongard's Problems”](#); Ph.D. thesis by Harry E. Foundalis, Indiana University 2006

– (cited) [“Ramblings of a Madman”](#); Book by Frank Bua, 2005

● [“DNA phonology: investigating the codon space”](#); **Ph.D. thesis**, Cambridge 2004

– (cited) [“The art of DNA: Back to bases”](#); Article on The Economist (print edition), April 24th 2003

○ “Unexpected similarities in codon composition between retroviral genomes and human protein families revealed by a novel method of codon usage analysis”; Poster at [HUGO HGM Conference](#), Shanghai 2002

○ (with Lehv slaiho, H.) “Mutable gene model – Computational mutation expression toolkit”; Poster at [ISMB Conference](#), Copenhagen 2001

– (cited) [“Understanding the Energy Transfer Function of LHClI, the Major Light-Harvesting Complex of Green Plants”](#); Paper on J. Phys. Chem. B, 2001, 105 (3), 604-617

● [“Molecular modelling of plant light-harvesting proteins”](#); **M.Sc. thesis**, Verona 1999