Alessandro Candolini

Curriculum Vitæ

I am an Italian theoretical particle physicist with heavy mathematical background, problem-solving attitude, and passion for statistical data analysis, simulation and software development. My current interest is in data science and I am looking for a position sitting at the crossroad between modern machine learning algorithms, traditional statistics and the computational challenges of writing code to process effectively massive datasets. I firmly believe in the future of this exiting and highly cross-disciplinary field and at the same time I think it is close to my academic background and fits my skills. My ideal job would involve working in a stimulating, innovative, team where I can give valuable insights that help the company to grow and at the same time where I have the opportunity to improve myself and my knowledge.

Contact information

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Bitbucket:	`bitbucket.org/acando86`
Stackoverflow:	`stackoverflow.com/users/5477611/alessandro-candolini`
Kaggle profile:	`www.kaggle.com/alessandrocandolini`

Work experiences

September 2014 – present

Spotlime, *Android software engineer*, Milan, Italy.

I am responsible of the development and implementation of the native Android application for Spotlime, a startup that provides an app to discover the best events in Milan and Rome. My duties and responsibilities include:

- develop from scratch the production-level Android native application for Spotlime;
- provide level of effort to support new functionalities and integrate them, choosing the implementation strategy, reviewing suitable libreries, and evaluating the best way to achieve the expected behavior;
- work alongside marketing team to deliver a product closer to real user needs, promoting solutions that helps improving user experience in response to end user feedback and analytics data;
- work alongside server-side and iOS developers to coordinate the upcoming releases in accordance with CTO directives;
- help to develop Spotlime official website using mainly JSF and primefaces technology.

Technologies include: Android SDK, Google Play Services, Android Studio and Eclipse IDEs, Facebook SDK, ORMLite and SQLite, gson, eventbus. Experience in: client-server synchronization, multithreading, social channels, analytics, maps and geolocation.
Company website: `https://www.spotlimeapp.com/web/bin/index.xhtml` The Android app is freely downloadable from Google play store: `https://play.google.com/store/apps/details?id=com.gooutsrl&hl=en`

October 2012 – August 2014 **Usablenet - leading global mobile and multi-channel technology company.**, *Lead Quality Assurance Analyst*, Udine, Italy.

After few months working as a quality assurance analyst, I have soon become quality assurance team leader at Usablenet, a leading multichannel technology company.
My duties and responsibilities include:

- working in synergy with web developers, project manager, solution engineer team and client to consistently deliver high-quality products that fulfills customer expectations;
- monitor and track project status during all steps, to meet deadlines and ensure all scope changes, variances and contingences that may arise during the projects lifecycle were visible to all people involved
- be a go-to person in the team
- Ability to prioritize and track multiple projects in parallel, manage allocation of resources within the team, supervise and support my team activities
- test plan and test cases creation using TestLodge
- promote new strategies to speed up effective communication among all teams involved in the project, suggesting improvements to current workflows and defining new internal procedures
- debugging and monitoring of customized web analytics solutions and technical requirements (for example requirements involving akamai technologies)
- developing small scripts (mainly using Python+JQL) which help to retrieve project information from Jira and provide automatic statistical reports about project status

Personally responsible as QA analyst of: Camelot Group (UK National Lottery, including the launch of the mobile website for the new lotto raffle on October 2013), Dell Inc. (22 countries including US, UK, China etc), FedEx, MaryKay, Selfridges, Surfstitch and many others. Proven ability to work under pressure responsibly and fulfilling high expectations. I have been involved in 247 QA support, which requires ability to quickly gain familiarity with unknow projects, providing insights which help to spot the root cause of the issues and testing if it has been solved successfully. Company website: `http://usablenet.com/`

2006 – 2012 **University of Udine**, *Teacher (on call)*, Udine.

I have been asked to teach the *Esercitazioni guidate di Fisica per il Corso di preparazione al Test di ammissione alla Facoltà di Medicina e Chirurgia* at the University of Udine (support training lectures organized for students who have to perform the examination test to enter the first year at the faculty of Medicine).

September 2011 – August 2012 **R.U.E. Risorse Umane Europa (no-profit association)**, *IT technical expert (on call)*, Udine.

Handling the IT issues in a small office (5 employees): pc, network and website maintenance

January 2010 – December 2010 **Consorzio per la Fisica**, *LaTeX 2ε typesetter*, Trieste.

I typeset prof. E. Gozzi lectures notes for his course of Quantum Mechanics. The notes are currently available at `http://www-dft.ts.infn.it/~gozzi/QM2.pdf`

February 2008 – May 2008 **I.N.F.N. (Istituto Nazionale di Fisica Nucleare)**, *C++ developer as volounteer*, Trieste.

Development of a object-oriented C++ library for uniform and non-uniform pseudo-random number generations, including some state-of-art algorithms

Education and training

September 2009 – now **Master student in Theoretical Physics**, *University of Trieste*, Trieste (Italy), Not completed yet.

Not completed yet due to work. I have successfully done exams including: advanced statistical mechanics, field theory, advanced mathematical methods and computational physics, including C++ implementation and comparison of symplectic algorithms for numerical integration of ordinary differential initial valued problems in classical molecular dynamics and monte carlo simulation of statistical mechanics system like Ising model

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May 2009 **Bachelor's degree in Physics**, *University of Trieste*, Trieste (Italy), 110/110.
Thesis title: *Simulazione numerica dello stress termomeccanico in un ellissometro*. Advisor: Prof. E. Milotti. Description: numerical investigation of the influence of laser beam-pointing fluctuations on the thermomechanical stress-induced birefringence in the optical ellipsometer of PVLAS experiment. The thesis required 1 year of advanced C++ programming including the development of an object-oriented library for finite-element solution of partial differential equations in rectangular domains and numerical integration of Ito stochastic differential equations. Thesis available (in Italian) at `http://www.infn.it/thesis/PDF/getfile.php?filename=3304-Candolini-triennale.pdf`

July 2005 **Scientific high school diploma**, *Liceo Scientifico Statale G. Marinelli*, Udine (Italy), 100/100.
High school's thesis in Physics: *Approccio spazio-temporale globale alla teoria quantistica e formulazione di Feynman della QED* (translation: overall space-time approach to quantum theory and Feynman's formulation of QED). Advisor: Prof. F. de Stefano

Continuing Education

December 17, 2014 **Machine Learning**, *Coursera*.
Statement of Accomplishment of Machine Learning course by Professor Andrew Ng from Standford University. Website of the course: `https://www.coursera.org/learn/machine-learning/home/info`

20 August 2013 - 23 August 2013 **School on Supersymmetry and Unification of Fundamental Interactions (Pre-SUSY 2013)**, *ICTP*, Trieste (Italy).
Attended the school as partecipant. Website of the school: `http://presusy2013.ictp.it/`

13 May 2013 - 17 May 2013 **Workshop on Ultracold Atoms & Gauge Theories**, *ICTP*, Trieste (Italy).
Attended the workshop as partecipant. Webpage of the workshop: `http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a12184`

20 August 2012 – 24 August 2012 **Workshop on Majorana Fermions, Non-Abelian Statistics and Topological Quantum Information Processing**, *ICTP*, Trieste (Italy).
Attended the workshop as partecipant. Webpage of the workshop: `http://cdsagenda5.ictp.trieste.it/full_display.php?email=0&ida=a11183`

February 2010 **Lectures of Introduction to Bayesian methods**, *University of Trieste*, Trieste (Italy).
I attended *as volountear* the Ph.D. course of Introduction to Bayesian methods (Prof. E. Milotti). Lectures addresses Ph.D. students in Physics at university of Trieste. Topics covered include: Bayesian inference, Maximum-Entropy and its applications to image restoration, EM algorithm, Markov-Chain Monte Carlo, introduction to naive Bayesian learning and Bayesian classifiers (AUTOCLASS). Webpage of the course: `http://wwwusers.ts.infn.it/~milotti/Didattica/Bayes/Bayes.html`

Other experiences

2000-2007 **A.F.A.M. (Associazione Friulana di Astronomia e Meteorologia**, Remanzacco, Udine (Italy).
Data reduction of VHF radio forward scatter meteor observations and detection of Jupiter decametric radio emissions (as a part of NASA's radio JOVE project). Data reduction for meteor activity were published monthly on the official RMOB bolletin and, at least in one occasion, cited in a referred paper by Alastair McBeath: WGN **31**:264–68 (2003). Observations on Quadrantids were published in a referred paper.
Several small projects of statistical data analysis and data visualization in C and C++. Created teaching notes about Io-Jupiter radio emissions for the AFAM website. Webpage of the AFAM radioastronomy group is (in Italian) `http://www.tng.iac.es/users/boschin/RadioAFAM/`

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Scholarships

2009 **University College for Sciences "Luciano Fonda"**, Trieste (Italy).
I won the scholarship in Physics for academic achievements. The evaluation of the candidates was based on an oral examination and the documents supporting the application (curriculum vitæ et studiourum, certificate indicating the exams sat and the marks obtained and two letters of presentation).

2005–2008 **University College for Sciences "Luciano Fonda"**, Trieste (Italy).
I won the scholarship in Physics for academic achievements and maintaned it for the three years of undergraduate studies. The evaluation of the candidates was based on writing and oral examination. In order to maintain the right to the scholarship students had to sit all the exams set for each year within the following 31st October and to obtain an *average mark of at least 27/30* for the exams sat in the academic year and *no less than 24/30* in any one exam.

Pubblications

2003 W. Boschin, D. Ganzini, *A. Candolini*, G. Candolini, **Radio Observations of the 2002 December Ursids from North-Eastern Italy**, WGN, **31**:1 29–30 (2003)

Languages

Primary Language **Italian**

Secondary Language **English (level B2 advanced)** *2006, University of Cambridge First Certificate (F.C.E.)*

Computer science skills

OS Linux, MacOS, Windows

Programming Languages C++, Android, Python, Scala, Java, Bash shell, HTML

Data-interchange format JSON, XML

Database SQL, JQL

IDE and editors VI (I'm a proud VI fan), Sublime Text Editor, Eclipse, Android Studio, Scala IDE

Typesetting LaTeX 2_ε

Tools for software development Atlassian Inc. JIRA, Atlassian Confluence, Atlassian TestLodge, CVS, command-line git, GitHub, BitBucket, SourceTree, Asana

Programming environments Mathematica, Octave/MATLAB

Scienfic libraries and tools Cern ROOT framework, gnuplot, Asymptote Vector Graphics Language, METAPOST, GNU Scientific Library, HDF5

Scientific Interests

- Quantum and Statistical Field Theory
- Statistical data analysis
- High-performance scientific computing
- Functional programming

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Hobbies

- Molecular cocktails, modern mixology, bartendering and gin
- Listening to blues and progressive rock (expecially Eric Clapton, Joe Bonamassa, Mark Knopfler, Eric Johnson, Deep Purple)
- Reading books (I'm a proud fan of Dostoevskij)
- Typography (I love R. Bringhurst's *Elements of Typographic Style*, among my favourite fonts are MinionPro opticals, and I enyoj using LaTeX to implement typographic finesse)
- Walking with my Siamese cat Ciambella

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