Alessandro **Candolini**

PHYSICIST · SOFTWARE DEVELOPER

London, UK

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I am an Italian theoretical physicist with heavy mathematical background, problem-solving attitude, and genuine passion for statistical data analysis, software engineering, and modern technology. My current interests range from pure functional programming to applied data science. Although I'm flexible enough to fit the problem at hand and confidently deliver fast solutions to highest priority tasks if required, I am a precise person and whenever possible I prefer to do things the way they should be done. That's why I would highly appreciate working in a team that recognises the benefits of clean architecture, agile methodologies and test-driven development. Currently I'm working as Android developer and this allows me to master mobile technologies, an important ingredient of the software development landscape. At the same time, I enjoy working in a dynamic environment where I have chances not only to improve my knowledge of the Android ecosystem and the software development process in general, but also where I can keep an eye on (and borrow ideas and technology from) emerging trends and metodologies in related fields, especially server-side, devops and data analysis. I am looking for a position sitting at the crossroad between modern algorithms, new technology and the computational challenges of writing code which is beautiful, efficient and reliable. I firmly believe in the future of highly cross-disciplinary fields. 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 skills.

Skills

Programming Languages	Proficient in: Android, C++, Java, SQL, $\LaTeX 2_\epsilon$. Basic knowledge of: Kotlin, Scala, python, julia, HTML5
Tools	vim, Eclipse, IntelliJ, Android Studio; Atlassian JIRA, Confluence, git; maven, gradle (including tasks); jenkins.

Employment

Sainsburys - Digital Lab   *London, UK*

SOFTWARE DEVELOPMENT   *February 2016 – present*

Overview: I spent my first couple of months introducing TDD practises in the development cycle of the grocery app project, setting up from scratch and maintaining a Jenkins 2.0 CI/CD OSX server for android and iOS, and writing cross-platform QA-compliant appium tests in Java making use estensively of the page-object and page-factory design patterns. I provided custom Maven archetypes and training to promote the adoption of these practises across company's projects and teams. Since June, I'm leading the development of the Grocery Android native app, adding new features including e-voucher wallet and nectar point redemption, advanced filters, weighted items and more. Under the hood the app poses intriguing technical challenges because while the app itself is purely native, the data are provided via real-time dynamic scraping in-app of the Sainsbury's grocery website, for which a fine-tuned combination of jsoup and android webview for js execution when appropriate is used to boost speed and to narrow the impact of scraping on the performance. The project lifecycle follows an agile approach with two-weeks sprints, sprint planning, retro and sprint demo, and with one release on the playstore at the end of each sprint. Currently, the app has more than 50k unique users.

Preferred technologies: Jsoup, Realm, Retrofit2, Dagger2, RxJava, LeakCanary, Fresco, Logan json. For testing: junit, testng, appium, espresso, mockito.

The Android app is freely downloadable from Google play store:

```
https://play.google.com/store/apps/details?id=com.sainsburys.gol&hl=en
```

Spotlime   *Milan, Italy*

ANDROID SOFTWARE ENGINEER   *September 2014 – December 2015*

Overview: Leading the development of the Android native application for Spotlime, a startup aimed at promoting the discovery of the best events in Milan, Rome and Florence.

Duties and responsibilities:

- Development *from scratch* and maintenance of the Spotlime android native application.
- Provide level of effort to integrate new functionalities and implement.
- Work alongside the marketing team to deliver a user-centric product closer to real customer needs, promoting solutions that helps improving UX in response to users' feedback and analytics data.
- Work alongside server-side and iOS developers to coordinate the upcoming releases, following CTO directives.
- Help to develop Spotlime booking desktop website using mainly server-side JSF and primefaces.

Preferred technologies: Realm database, Retrofit, Glide, EventBus, Gson. Experience in: REST, client-server data synchronization, offline mode, advanced geolocation techniques, Facebook SDK, GCM push notifications

More details: The Android app is freely downloadable from Google play store:

```
https://play.google.com/store/apps/details?id=com.gooutsrl&hl=en
```

Usablenet - leading global mobile and multi-channel technology company. *Udine, Italy*

Lead Quality Assurance Analyst *October 2012 – August 2014*

After few months working as a quality assurance analyst, I was promoted quality assurance team leader at Usablenet, a leading technology platform company delivering enterprise-level mobile and multichannel commerce solutions. My responsibilities:

- Working in synergy with mobile web developers, project manager, solution engineer team and customers to consistently deliver high-quality products that fulfills customer expectations and end user needs.
- 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.
- Ability to prioritize and track multiple projects in parallel, manage allocation of resources within the team, supervise and support my team activities.
- Be a go-to person.
- Proven ability to work under pressure responsibly and fulfilling high expectations.
- 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 technical requirements (for example requirements involving akamai technologies).
- 247 QA support.
- Developing small scripts (mainly using Python+JQL) which help to retrieve project information from Atlassian 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. Company website: `http://usablenet.com/`

University of Udine *Udine*

Teacher (on call) *2006 – 2012*

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 candidates to the placement exam for accessing the courses at the faculty of Medicine).

R.U.E. Risorse Umane Europa (no-profit association) *Udine*

IT technical expert (on call) *September 2011 – August 2012*

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

Consorzio per la Fisica *Trieste*

LaTeX 2_ϵ typesetter *January 2010 – December 2010*

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`

I.N.F.N. (Istituto Nazionale di Fisica Nucleare) *Trieste*

C++ developer as volounteer *February 2008 – May 2008*

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

Education

University of Trieste *Trieste (Italy)*

Master student in Theoretical Physics *September 2009 – now*

- Still under completion (due to work). I have successfully done exams including: advanced statistical mechanics, quantum 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 the spin Ising model

University of Trieste *Trieste (Italy)*

Bachelor's degree in Physics 110/110 *May 2009*

- Thesis title: *Simulazione numerica dello stress termomeccanico in un ellissometro*.
- Advisor: Prof. E. Milotti.
- Description: numerical simulation of the influence of laser beam-pointing fluctuations on the thermomechanical stress-induced birefringence in the optical ellipsometer of PVLAS experiment. The thesis required a deep understanding of the physics involved, knowledge of stochastic processes, familiarity with signal processing and 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 coupled to 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`

Liceo Scientifico Statale G. Marinelli (Scientific diploma, high school)   *Udine (Italy)*
SCIENTIFIC HIGH SCHOOL DIPLOMA 100/100   *July 2005*
- 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

MOOCs

2014   **Machine Learning**, Statement of Accomplishment of Andrew Ng's Machine Learning course.   *Coursera*
Website: `https://www.coursera.org/learn/machine-learning/home/info`

WORKSHOP AND SCHOOLS IN PHYSICS

2016   **Conference on Long-Range-Interacting Many Body Systems: from Atomic to Astrophysical Scales** , Attended in streaming. Website: `http://indico.ictp.it/event/7612/`   *ICTP, Trieste (Italy)*

2016   **Spring School on Superstring Theory and Related Topics**, Attended in streaming (due to work). Website: `http://indico.ictp.it/event/7624/`   *ICTP, Trieste (Italy)*

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

2013   **Workshop on Ultracold Atoms & Gauge Theories**, Attented as partecipant. Website: `http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a12184`   *ICTP, Trieste (Italy)*

2012   **Workshop on Majorana Fermions, Non-Abelian Statistics and Topological Quantum Information Processing**, Attented as partecipant. Website: `http://cdsagenda5.ictp.trieste.it/full_display.php?email=0&ida=a11183`   *ICTP, Trieste (Italy)*

2010   **Ph.D. Course of Introduction to Bayesian methods**, I attended *as volounteer* the Ph.D. course of Introduction to Bayesian methods (Prof. E. Milotti). Topics covered: Bayesian inference, Maximum-Entropy and its applications to image restoration, EM algorithm, Markov-Chain Monte Carlo, Hidden Markov models, naive Bayesian learning and Bayesian classifiers (AUTOCLASS). Website: `http://wwwusers.ts.infn.it/~milotti/Didattica/Bayes/Bayes.html`   *Trieste (Italy)*

Scholarships

2009   **University College for Sciences "Luciano Fonda"**, Awarded with the scholarship for academic achievements. Evaluation was based on face-to-face examination and documents supporting the application (curriculum vitæ et studiourum, certificate indicating the exams sat and corresponding marks, two cover letters).   *Trieste (Italy)*

2005–2008   **University College for Sciences "Luciano Fonda"**, Awarded with the scholarship for academic achievements and mantaned it for the three years of undergraduate studies. Evaluation was based on writing and face-to-face examinations. To maintain the right to the scholarship students had to sit all the exams set for each year obtaining an *average mark of at least 27/30* and *no less than 24/30* in every exam.   *Trieste (Italy)*

Pubblications

2003   **Radio Observations of the 2002 December Ursids from North-Eastern Italy**, W. Boschin, D. Ganzini, *A. Candolini*, G. Candolini, WGN, 31:1 29–30.
`http://adsabs.harvard.edu/abs/2003JIMO...31...29B`

Hobbies

- Molecular bartendering, modern mixology, and gin
- Listening to blues and rock: Eric Clapton, Peter Green, Joe Bonamassa, Mark Knopfler, Warren Haynes, Eric Johnson, Deep Purple, and more
- 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, check its Facebook profile at this url: `https://www.facebook.com/profile.php?id=100004536498274&fref=ts`