Alessandro **Candolini**

Physicist · Software Developer

London, UK

☐ +44 7402 554023 | ✉ alessandro.candolini@gmail.com | ⊙ acando86 | ▯ alessandrocandolini | ⓢ alessandro.candolini

I am an Italian theoretical physicist with heavy mathematical and statistical background, problem-solving attitude, and genuine passion for software engineering and modern technology. 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. Currently I'm an Android developer, however I enjoy working in a dynamic environment where I have chances not only to improve my knowledge of the Android ecosystem but where I can also keep an eye on (and borrow ideas and technology from) emerging trends and technologies in related fields. 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, Java, SQL, C++, $\LaTeX\,2_\epsilon$. Basic knowledge of: Kotlin, Scala, python, julia, HTML5

Tools IDEs: Eclipse, IntelliJ; Atlassian JIRA & Confluence; advanced git; maven, gradle; jenkins.

Employment

Sainsburys - Digital Lab

London, UK

SOFTWARE DEVELOPMENT

February 2016 – present

Overview: I spent the first couple of months introducing some TDD practises, spinning up and maintaining a in-house Jenkins 2.x CI/CD OSX server, and writing multi-platform QA-compliant E2E acceptance appium Java tests with page object pattern, doing training and maven templates to encourage the adoption. Since June 2016, I've been leading the android development of the Grocery native app for shopping online. Currently, the app has more than 100k unique users.

Duties and responsibilities:

- I am developing new features and bug fixing at consistent high velocity, with proven ability to arrange any urgent task and contingency that can arise during the sprint with almost no impact on the sprint requirements
- implementation is challenging because the app uses in-app real-time dynamic scraping of the Sainsbury's website plain html as data source
- Metodology: agile, two-weeks sprints, sprint planning, retro and demo, releases on the playstore at the end of each sprint
- I have been praised by the company for my hard work
- I have been doing mentorship and training of apprentices
- I'm used to prepare slides to explain benefits and efforts of some implementation choices also to non-technical colleagues
- I am assistant coordinator of the functional programming "guild", an internal bi-weekly meeting aimed at promoting the adoption of FP within Sainsbury's

Preferred technology stack: Jsoup, Retrofit2 (I have implemented custom converter and calladapter factories to hide the scraping part), Dagger2, basic RxJava2, Realm, Fresco, firebase, appsflyer. For tests: junit4, mockito, espresso, spoon, appium, wiremock. Architectual pattern: clean architecture with mvp on presentation layer.

CI/CD: I setup the delivery pipeline on greenhouse CI, configuring lint, unit and espresso tests on aws farm, sonarqube and jacoco.

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.
- 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 cooupled 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** *ICTP, Trieste (Italy)*
Scales, Attended in streaming. Website: `http://indico.ictp.it/event/7612/`

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

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

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

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

2010 **Ph.D. Course of Introduction to Bayesian methods**, I attended *as volounteer* the Ph.D. course *Trieste (Italy)*
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`

Scholarships

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

2005–2008 **University College for Sciences "Luciano Fonda"**, Awarded with the scholarship for academic *Trieste (Italy)*
achievements and maintaned 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.

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, 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: `https://www.facebook.com/profile.php?id=100004536498274`