Diego Russo

Software Engineer

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"Now is better than never" — The Zen of Python

Desired employment

I'm always looking for a challenging position where I can express and use my passion for programming and technology. I mostly develop in Python in *NIX environment on a daily basis. As I'm a dynamic person, professional and personal growth are very important to me.

Experience

Vocational

Since 2021–04   **Principal Software Engineer in ML Group**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
I'm leading the AI evaluation toolkit project: due its complexity, the project requires efforts from team across ML and Arm. I'm acting as central point amongst these teams, coordinating both technical tasks and communications. I also did start a **Python Guild** which counts almost 500 members across the company and I've been an active member of the **ML Software Quality Forum.**

2020–01/2021–03   **Staff Software Engineer in ML Group**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
Working in the ML tooling team, I used my Python expertise across a range of projects. I moved then to the **AI Evaluation Toolkit** for enabling customers to evaluate Arm IP for ML workloads. In the meantime I finished my master's exams and worked on the master thesis.

2017–09/2019–12   **Staff Software Engineer in ISG**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
Working in the **Mbed Linux OS team**, **I lead the build, test and validation automation infrastructure of our product: from build to data representation** while being part of the core engineer. My day to day job required constant communication with other teams overseas and with external partners. Software stack used: **Jenkins/pipelines, LAVA, Artifactory, Docker, Python, Bash, Linux, GitHub.**

2016–06/2017–08   **Staff Software Engineer in DSG**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
Leading an infrastructure team (8), I looked after both the Arm Compiler and OSS Toolchains automation infrastructures (GNU-A, GNU-RM and LLVM OSS). Besides the technical lead, my role was to make sure all infrastructures respect design principles whilst sharing knowledge, technologies and processes across different teams. I kept a monthly forum with stakeholders to be sure to catch their requirements and I represented DSG infrastructures across the business.

2013–11/2016–05   **Staff Software Engineer in DSG**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
Working in the GNU team, our goal is the delivery of the GNU toolchain optimized for Arm processors. **I was responsible of the infrastructure for automatic builds, tests and benchmarks.** Most of the infrastructure was **Python** based and it automated all the phases of the process, and interacting with board farm. I developed an application for triaging GCC test results: it stores them into a database in order to analyse those data and to find error root causes, trends, common patterns and automating the tracking of issues using Jira. Software stack used: **Python, flask, bootstrap, AngularJS, MongoDB, Linux, svn/git.**

2011–10/2013–10   **Senior Software Engineer in Engineering IT**, *Arm Ltd, `http://www.arm.com`*, Cambridge, UK.
I worked on a variety of internal projects. I developed a reliable and fault tolerant application that interacts with the LFS cluster and a AMQ server. I also developed a Jira plug-in to interact with an internal software in order to synchronise external tickets with internal ones. I looked after, improved and fixed many internal IT systems. I ran the *IT Early Career Scheme* for hiring graduates and interns. Software stack used: **Python, MongoDB, RabbitMQ, Java, Jira, LSF, Perl, C, tcsh, bash, Linux, svn/git.**

2008–04/2011–02   **Software/System Engineer in R&D**, *Forinicom Srl, `http://www.com-com.it`*, Bastia Umbra, IT.
Worked in the R&D team to create an innovative product in the wireless communications market. I initially worked on **embedded systems**, customizing the OS and the software to manage authentication. I focused then on the software for deploying these devices and on large-scale production environment. Also, we developed a complete solution for managing **hotspots**: I worked on a captive-portal to manage authentication, sessions log, signs up, signals management from remote devices, integration with our management software, payment via credit card and authentication via SMS. Finally I did create a software for network monitoring. Software stack used: **Python/Django, PostgreSQL database, Debian, XEN, PyQT, git.**

2010–11/2011–01   **Python Engineer**, *Exion Sagl, Manno, Switzerland, `http://www.exion.ch/`*, Remote, Assisi, IT.
Setting up an **Adult WebTV** entirely developed in **Python/Django with PostgreSQL** database on Linux/Apache platform and Red5 as streaming server.

2010–10/2011–01 **Python Engineer**, *Sauce Labs Inc, San Francisco, USA, `http://saucelabs.com`*, Remote, Assisi, IT.
Implementing new features, bug fixing, structural changes to the site of Sauce Labs. Distance work coordination. Software stack used: **Python, Pylons, GitHub.**

2006–12/2008–08 **Python/Django Engineer**, *Consorzio Miles — Servizi Integrati, Rome*, Assisi, IT.
2009–09/2011–09 Working in a team, I developed a management application for the municipality of Bettona, for the computerization of services, the management of personal data, building practices, urban planning, calculation of ICI tax and updating of land registry data. Also I created an advanced web interface for sending proposed practices, on-line services conference, integration process, exploration of cadastral map in **DXF** and production of customized automated printing. **The project had a gap year when I started working for Forinicom Srl.** Whenever there are overlaps, the jobs have been on a part-time basis. Software stack used: **Django, Python, PostgreSQL, Linux, Apache, svn/git, trac.**

Miscellaneous

2016–01/2016–06 **iPhone (iOS9) and Swift 2.2**, *University of Perugia, `http://dmi.unipg.it`*, Udemy — Cambridge, UK.
After self learning Swift 2.2, I attended an online course to create iOS apps. I used those skills to create DipMatBeacon (`https://github.com/diegorusso/DipMatBeacon`), an app used to check the booking state of Maths department rooms using iBeacon technology.

2015–06/2015–12 **mm_mpi: MPI Matrix multiplication**, *University of Perugia, `http://dmi.unipg.it`*, Cambridge, UK.
Developed an application in C using MPI and Cannon's algorithm. The code generates different versions of the application: blocking and non-blocking MPI calls, CBLAS, and different OpenMP optimizations. Codebase: `https://github.com/diegorusso/mm_mpi`

2013–06/2015–06 **Staff Software Engineer**, *Opentaste Ltd `http://www.opentaste.eu`*, Remote, Cambridge, UK.
Working in my spare time, I was part of a distributed team of 10 people across the globe (San Francisco, Italy, Australia). My main tasks were technical advisor and code reviewer. We did organise regular hangouts to discuss about plans, issues and tasks. Software stack used: **Python, Flask, MongoDB, GitHub, Google Docs.**

2011–06 **Computer course teacher**, *Centro Studi Foligno, `http://www.cstudifoligno.it`*, Foligno, IT.
Taught a class of 10 people the existence of the open source world, installing open source software on Windows and then proceed to install Ubuntu on their laptop.

2011–05/2011–06 **Objective-C Engineer**, *Forinicom Srl, Bastia Umbra, `http://www.com-com.it`*, Assisi, IT.
Developed an iPhone app that permits you to auto-login into ComCom Hotspot. This application was used at Europython 2011 in Florence.

2011–01/2011–06 **iPhone (iOS4) and Objective-C**, *University of Perugia, `http://dmi.unipg.it`*, Assisi, IT.
Attended online Stanford University classes, I learnt Objective-C, developing simple applications. As final project I customized a VOIP application for iPhone based on Linphone (`http://www.linphone.org`).

2009–08/2010–03 **Paper publication[1]**, *University of Perugia, `http://dmi.unipg.it`*, Perugia, IT.
Preparation and publication of "The AES implementation based on OpenCL for multi/many core architecture" paper for the yearly conference ICCSA 2010 (`www.iccsa.org`) at Sangyo University, Fukuoka in Japan. The paper discussed the implementation of an AES algorithm that runs on NVIDIA/ATI graphics card.

2005–11/2006–05 **SEO Search Engine Optimization**, *WEDOIT sas*, Assisi, IT.
Working in a team I acquired knowledge of SEO and its behaviour. The internship included SEO optimisation of various websites, using *pagerank* and *link popularity* methods. Also I worked as a system engineer of Debian-based virtualised server and I developed a SEO oriented application in Python and PHP.

2002–02 **Internship combined with IFS project, Impresa Formativa Simulata (Enterprise Training Simulation)**, *IOSA CARLO Srl*, Terni, IT.
Administration of enterprise network and coordination of the students work, building the simulated organization chart and developing the website.

Trainings

Since 2011 **Europython Conference**, *Volunteer, Attendee*, Florence, Berlin, Bilbao, Rimini, Edinburgh, online.
I volunteered in the 2011 edition and attended since then. Europython is my annual appointment with the Python world as it is a source of ideas that keeps me updated with the latest trends around Python.

2015–10 **MongoDB Administration and Developers training**, *MongoDB*, Arm Ltd — Cambridge, UK.
3 days training covering MongoDB essentials (query language, indexes, aggregation framework, replica set, sharding...)

2014–01/2014–03 **Cryptography 1**, *Coursera*, Online — Cambridge, UK, Final score: **PASSED**.
Topics covered in the course: semantic security, block ciphers and pseudorandom functions, DES/AES block ciphers, message integrity, collision resistant hashing, authenticated encryption, Diffie-Hellman, RSA, and Merkle puzzles, public key encryption, the ElGamal system (`http://bit.ly/coursera-crypto1`)

2013–09 **ITIL Foundation**, *ILX Group*, Arm Ltd, Cambridge, UK, Foundation Score: **31 out of 40, PASSED**.
The skills achieved are all included in (`http://bit.ly/itil-foundation`)

2007–02/2007–07 **Radio-amateur class A license**, *C.I.S.A.R. Foligno's section*, Assisi, IT, **PASSED**.
During the course for radio-amateur I acquired excellent knowledge of radio technology basics, radio devices and its usage and basics of magnetism, electromagnetism. Operator license for amateur radio station class A (nr. 020122/AN), International callsign **IZ0OVB**

Education

2010–10/2021–04   **Master Degree in Computer Science, "Security"**, *University of Perugia, `http://dmi.unipg.it`*, Perugia, IT/Cambridge, UK, **IT: 110/110 cum laude — UK: First class honours**.
While working full-time, I did study during my spare time. Topics covered: AI, parallel computing, simulation, advanced programming and operating systems, theoretical computer science, computer security, advanced databases and data mining, law applied to computer science and communications, cryptography, mobile programming, operations research.

2002–10/2006–11   **Bachelor Degree in Computer Science, "Networking"**, *University of Perugia, `http://dmi.unipg.it`*, Perugia, IT, **IT: 102/110 — UK: 2:1**.
Topics covered: Mathematics (analytical and discrete), Programming (C, Java, Php, html, xml, xsl, dtd, Pascal, bash/csh, VB.NET, VRML), Databases (Mysql, MS Access), Networks (ATM, xDSL, Mpls, X.25, Frame Relay) types (wireless, wired) and interaction between them, Knowledge of multimedia system, overview of parallel computing (mpi)

1996–09/2002–06   **Accountant programmer Diploma (Mercurio project)**, *Ministry of Public Education — I.T.C. (Commercial technical institute) "Federico Cesi"*, Terni, IT, **IT: 85/100 — UK: A**.
Topics covered by the course (Commercial technical institute) of study as defined by the Ministry of Public Education: Chemistry / Physics, Mathematics and Computer Laboratory, Natural Science, Word processing and data, Second foreign language (French), Law and Economics, Business, Economics and Financial Science, Italian Language and Literature, History, Computer Management, Applied Mathematics, First foreign language (English), Law.

Master Thesis

title   **Per-Layer Pruning With Heuristic** — *Pruning layers of a neural network with a heuristic-based approach* (2020–09/2021–04)

supervisors   Alfredo Milani, Anton Kachatkou

description   The aim of this thesis is to investigate and validate a specific pruning technique: **layers of a network model are pruned based on a heuristic whilst respecting the target sparsity of the network model.** The code is implemented in TFMOT and experimented on MobileNet v1 with CIFAR-10 and ImageNet 2012 datasets. The heuristic distribution of weights behave more robustly compared to the uniform distribution especially with higher sparsity levels.

Bachelor Thesis

title   **Wireless Broadband Network** — *Weconnect project* (2006–07/2006–12)

supervisors   Simone Brunozzi, Sergio Tasso

description   The thesis was to develop a Wi-Fi network in order to cover **digital-divide** areas. Thanks to this project, I acquired a wide knowledge about Wi-Fi networks, legislation that governs the operation, RouterOS (`www.mikrotik.com`), AAA protocol and Radius server. I managed a server for the provision of various network services: mail (Postfix), web server (Apache), DNS (pdns), firewall (iptables), database (PostgreSQL), hotspot (Chillispot), Debian OS, Voyage OS.

Languages

Italian	**Mother tongue**	*Italian citizenship*
English	**C1 level**	*British citizenship*
Spanish	**C1 level**	

Interests

Technology   Attracted by all things which have a processor

Music   Hobby level. I played piano and guitar and I love to listen to any genre, from salsa to metal

Sports   Cuban Salsa dancing. Past: Taichi, Squash, Capoeira, Kungfu, Swimming

Puzzles   I love any kind of puzzle and I'm very passionate about Rubik's cubes: sizes solved from $2 \times 2 \times 2$ to $9 \times 9 \times 9$

Publications

[1] Osvaldo Gervasi, Diego Russo, and Flavio Vella. The aes implantation based on opencl for multi/many core architecture. 03 2010. `doi:10.1109/ICCSA.2010.44`.

About this CV

Language   Proudly written in LaTeX and Vim   **Source**   `https://github.com/diegorusso/cv`