

Stefano Alberto Russo's Curriculum Vitae

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MAIN SKILLS

- Experienced computer scientist and tech lead with a strong focus on computational and data sciences. Specialized in data-driven applications, including IoT, HPC, and distributed systems.
- Strong end-to-end product mindset, capable of both keeping a bird's eye perspective as well as drilling down into deeply technical aspects in order to make the right tradeoffs.
- Proficient in Python, working experience in a number of technologies and frameworks such as Django, Git, Docker, HTML & JavaScript, REST APIs, Postgres, Cassandra, Hadoop, Pandas, Keras, Tensorflow, and more.
- Excellent problem solving attitude, critical thinking and analytical skills enhanced by an interdisciplinary background.
- Strong organizational and management skills, team player with experience in cross-team collaborations and interdisciplinary projects.
- Charismatic speaker and emphatic listener, capable of simplifying and explaining complex technical concepts and to engage with a non-technical audience.

WORK EXPERIENCE

Jan. 2022 - present **Board member and CTO**

Enersense, Trieste (IT)

Enersense is a small startup working on making it easier to get insights from energy consumption data. In this role I am leading a small team of four, designing the architecture of the underlying platform and defining the business roadmap from a technological perspective. Our clients include some of the most energy-demanding industries across north-east Italy as well as smaller companies.

Nov. 2019 - present **Research fellow**

Italian National Center For HPC, Big Data and Quantum Computing & INAF (Italian National Institute for Astrophysics)

I am working on data-intensive science platforms, with a particular focus on software containerization and scientific reproducibility. More in detail, I designed and built a platform where each computing task is framed as a containerized microservice, thus enabling for reproducibility by design, targeting in particular HPC infrastructures. I presented my work in several occasions at international conferences, workshops and seminars, and the platform I built is being progressively evaluated by other institutions as well.

Sept. 2020 - Sept 2024 **Adjunct professor**

University of Trieste (IT)

I was teaching programming lab for Artificial Intelligence and Statistics at the University of Trieste. The lab focused on the Python programming language, including modern best practices as writing modular and reusable code, versioning, unit testing and more, in order to provide students with a durable skillset.

Mar. 2019 - May 2020 **Tech lead**

Idrostudi, Trieste (IT)

I led a small team of software engineers and data scientists (PhD and MSc level) to build a sewerage network monitoring system, powered by machine learning. The first deployments are processing IoT sensor data from thousands of measuring stations across north Italy, and provide insights through dashboards and reports. The role was hands on, and on top of designing the software platform and data pipelines I actively participated in developing the underlying algorithms and models.

Jul. 2017 - Jun. 2019 **Co-founder**

Sharpsense Limited, London (UK)

At Sharpsense we were building real time monitoring systems for infrastructural and environmental engineering. Our technology was based on machine learning and signal processing, and we field-tested it in several occasions including on the Morandi bridge in Genoa (Italy) after the collapse. We raised pre-seed VC funding and worked with partners from Europe, the USA, Canada and Hong Kong.

Jan. 2017 - Jul. 2017 **Entrepreneur in Residence**

Entrepreneur First, London (UK)

Entrepreneur First is the world's leading talent investor in the deep tech space, providing funding and training to the world's most talented and ambitious individuals with the goal of starting a VC-backed startup. In this context, I investigated commercial and technical viability of novel technologies in the fields of Artificial Intelligence, Quantum and Neuromorphic Computing, Sensor Fusion, and more.

Mar. 2014 - Jan. 2017 **Head of data and data engineer**

Enerlife, Trieste, (IT)

Designed and built from scratch an IoT / Big Data platform for smart meter data analysis. The goal was to provide insights on energy usage, including consumption patterns and anomaly detection. The role was hands-on, and I also took part in the smart meter hardware design, testing and pre-production planning.

Feb. 2013 - Feb 2014 **Fellow (Openlab, Data Science)**

CERN, Geneva (CH)

I was part of CERN Openlab, a unique public-private partnership through which CERN collaborates with leading ICT companies as Intel, IBM, Oracle, Siemens, Google, and more. My role was focused on exploring new methodologies for big data analytics, mainly focused on machine learning and statistical modeling. To this extent, I developed various proof of concepts on potential use cases and I organized and took part in several cross-organization meetings to discuss about the evolution of the project.

Feb. 2011 - Feb 2013 **Student & Researcher**

CERN, Geneva (CH)

I carried out studies and research in the space of Big Data and data-intensive science. I first designed, developed and deployed a real time analytics engine for monitoring the performance of the LHC 1500+ nodes storage cluster using Hadoop MapReduce; then I carried out a feasibility study and developed a proof of concept transferring the very same technology in the field of High Energy Physics analyses, work that has been published and presented at CHEP (Computing in High Energy Physics) in 2013.

OTHER ACTIVITIES

I worked as a contractor on a variety of projects at the intersection of data, machine learning and computer science (EUMETSAT, Sky UK, eXact Lab, Generali Group, and more) and I delivered various talks, lectures and seminars on big data, scientific computing and software development in general.

I am also the creator of [Pythings.io](#), an IoT platform that makes it easy to program microcontrollers by using just a web browser; of [Timeseria](#), an object-oriented time series processing library; and of a few other projects, mainly open source.

In my free time, I enjoy acting, skiing, sailing, and focusing on personal growth.

EDUCATION

Dec. 2020 - Mar. 2025 **PhD in Computer Science**

University of Trieste, Italy.

Thesis: "Robust anomaly detection for time series data in sensor-based critical systems", carried out in collaboration with a water management company on a real world use-case.

Oct. 2009 - Mar. 2013 **MSc in Computational Physics**

University of Udine, Italy.

Thesis: "Using the Hadoop MapReduce approach for monitoring the CERN storage system and improving the ATLAS computing model", carried out at CERN. Graduated with 104 on 110.

Oct. 2005 - Mar. 2009 **BSc in Computer Science**

University of Trieste, Italy.

Thesis: "Benchmarking of scientific applications on High Performance and Grid computing infrastructures", carried out at SISSA. Graduated with 110 on 110, magna cum laude.

LANGUAGE SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Fluent	Fluent	Fluent	Fluent	Fluent
French	Moderate	Moderate	Basic	Basic	Basic

SELECTED PUBLICATIONS AND PRESENTATIONS

- **Article:** "Timeseria: An object-oriented time series processing library", S. A. Russo, G. Taffoni and L. Bortolussi, SoftwareX, Volume 29, 01/2025.
- **Article:** "Rosetta: A container-centric science platform for resource-intensive, interactive data analysis", S. A. Russo, S. Bertocco, C. Gheller and G. Taffoni, Astronomy and Computing, 10/2022.
- **Article:** "A microservice-oriented science platform architecture", S. A. Russo, G. Cupani and G. Taffoni, proceedings of the 30th Astronomical Data Analysis Software and Systems (ADASS) conference, 6/11/2020.
- **Workshop:** "Docker and containerization - an introduction", S. A. Russo, INAF ICT Workshop, Milan (Italy), 21/11/2019
- **Seminar :** "Modern software development for scientific computing", S. A. Russo, SISSA Molecular and Statistical Biophysics group, Trieste (Italy), 27/09/2017.
- **Lecture series:** "Hadoop for scientific computing", S. A. Russo, Master in High Performance Computing, SISSA and ICTP, Trieste (Italy), December 2014 and December 2015.
- **Article:** S. A. Russo, M. Pinamonti and M. Cobal, "Running a typical ROOT HEP analysis on Hadoop MapReduce", Journal of Physics: Conference Series 513 (2014).
- **Presentation:** "Hadoop as a solution for data-intensive scientific computing", S. A. Russo, Data Day, ICTP, Trieste (Italy), 05/09/2013.
- **Presentation:** "A top quark analysis based on Hadoop", S. A. Russo, ATLAS Software and Computing Week, CERN, Geneva (Switzerland), 11-15/06/2012.
- **Presentation:** "CERN IT-DSS Monitoring tools", S. A. Russo, CERN IT Department, CERN, Geneva (Switzerland), 14/02/2012.
- **Lecture:** "How to benchmark your application", S. Cozzini and S. A. Russo, Advanced School in High Performance and GRID Computing 2009, ICTP, Trieste (Italy).
- **Project:** S. A. Russo and M. Pandolfi, "iTrace", Start Cup FVG 2009.
- **Report:** M. Scarcia, S. A. Russo and S. Cozzini, "Performance of scientific applications on multi-core architectures: a Nehalem evaluations study", July 2009, eLab joint Democritos/SISSA Laboratory for e-science.
- **Report:** M. Scarcia, S. A. Russo and S. Cozzini, "Performance comparison between a massive SMP machine and clusters", June 2009, eLab joint Democritos/SISSA Laboratory for e-science.
- **Report:** M. Scarcia, S. A. Russo and S. Cozzini, "A preliminary study on TESLA GPGPU", June 2009, eLab joint Democritos/SISSA Laboratory for e-science.