Rogério **Pontes**

Ph.D. Candidate · Software Engineer

Portugal

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"I do not fear computers. I fear the lack of them. — Isaac Asimov"

Summary

I am a software engineer with more than 5 years of experience in distributed systems, databases and cryptography. My curiosity led me to pursue a Ph.D. in computer science where I published 7 scientific papers in peer reviewed conferences, won a best student paper award and developed novel cryptographic database systems. The results of my publication are all available as open source projects. At the same time, I have been working as a research assistant in several European and national R&D projects that tackle technological or societal problem. My roles within the projects include system design, software development, testing, integration and the final prototype deployment.

Skills

Programming	Java, C, Python, Haskell, Javascript, LaTeX, Gnuplot
Backend	Spring Boot, Laravel, Node.js, PostgreSQL, HBase, Shell, Fuse
Provisioning	Docker, Swarm, Vagrant, Jenkins, Ansible
Cryptography	Encryption, Intel SGX, ORAM, Multiparty Computation, OpenSSL

Experience

INESC TEC

Braga, Portugal

Research Assistant

Sep. 2014 - Present

- Collaborated on the development and deployment of the STAYAWAY COVID app.
  - STAYAWAY COVID is the official contact tracing Portuguese application in response to the Covid-19 pandemic.
  - Analyzed the security of the underlying cryptographic protocol (DP-3T).
  - Helped write the content and define the interface of the project's webpage (http://stayaway.inesctec.pt).
- Participated in the European SafeCloud project.
  - SafeCloud resigned the classical cloud architecture to protect the user's privacy (https://www.safecloud-project.eu).
  - Developed database engines and file systems.
  - Automated the deployment of several project components using containers.
  - Managed the successful integration of the project databases with industry partners.
- Full-stack developer in FalarSobreCancro.org, a social network to help the Portuguese oncology community.
- Developer in the national OSSAS research project.
  - Research project in collaboration with Altice Labs (https://www.alticelabs.com/pt/projetos/ossaas.html).
  - Automated the deployment of internal products in a private cloud environment.
- Supervised two master students dissertations. Both defended successfully.
- Helped write European project deliverables and proposals.
- Implemented front-end components on several WordPress websites (Aida, BigHPC, FM2019, EuroSys2018).

Education

University of Porto

Porto, Portugal

Ph.D. in Computer Science

Sept. 2015 - Dec. 2020 (Expected)

- Dissertation: Trade-offs between privacy and efficiency on databases.
- Author of 7 research papers accepted in top venues.
- Best student paper award on peer-reviewed conference (SYSTOR).
- Designed, developed and evaluated cryptographic protected databases and file systems.
- Proposed, developed and evaluated novel cryptographic schemes.
- External reviewer of computer science conferences (SRDS 2019, DSN 2019).

University of Minho

Braga, Portugal

M.Sc. in Computer Engineering

Mar. 2013 - Aug. 2015

- Dissertation: Benchmarking a Linear Algebra Approach to OLAP (18/20).
- Areas of expertise: Distrusted Systems and Formal Methods.

University of Minho

Braga, Portugal

B.S. in Computer Engineering

Mar. 2009 - Aug. 2013

Languages

Portuguese, Native

English, Fully Professional

Deutsch, No Proficiency

Scientific Publications

On the Cost of Safe Storage for Public Clouds: An Experimental Evaluation — *Budapest, Hungary*
Accepted in Symposium on Reliable Distributed Systems Workshop (SRDSW) — *2016*

SafeRegions: Performance Evaluation of Multi-party Protocols on HBase — *Budapest, Hungary*
Accepted in Symposium on Reliable Distributed Systems (SRDS) — *2016*

SafeFS: A Modular Architecture for Secure User-Space File Systems: One FUSE to Rule Them All — *Haifa, Israel*
Accepted in International Systems and Storage Conference (SYSTOR) — *2017*

Performance trade-offs on a secure multi-party relational database — *Marrakech, Morocco*
Accepted in Symposium On Applied Computing (SAC) — *2017*

A Practical Framework for Privacy-Preserving NoSQL Databases — *Hong Kong, China*
Accepted in Symposium on Reliable Distributed Systems (SRDS) — *2017*

D'Artagnan: A Trusted NoSQL Database on Untrusted Clouds. — *Lyon, France*
Accepted in Symposium on Reliable Distributed Systems (SRDS) — *2019*

On the trade-offs of combining multiple secure processing primitives for data analytics — *Valleta, Malta*
Accepted in International Conference on Distributed Applications and Interoperable Systems (DAIS) — *2020*

Building oblivious search from the ground up
In submission

Presentation

Symposium on Reliable Distributed Systems — *Budapest, Hungary*
Presented <SafeRegions: Performance evaluation of multi-party protocols on HBase> — *Sep. 2016*

International Conference on Distributed Applications and Interoperable Systems — *Valleta, Malta*
Presented <On the trade-offs of combining multiple secure processing primitives for data analytics> — *Jun. 2020*

Extracurricular Activity

EuroSys — *Porto, Portugal*
Organization volunteer — *2018*