

# Pierre-Louis Aublin

*Ph.D. in Computer Science*

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## Experience

- January 2016 – **Research Associate**, *Imperial College London*, London, UK.
- working on the **security of cloud** applications using **secure enclaves** as part of the European Sereca and SecureCloud projects;
  - developing** TaLoS, a **TLS library** that allows existing applications to **securely terminate TLS connections** inside an **SGX** enclave;
  - publications in top conferences**: Usenix ATC '17, EuroSys '18 and DSN '18;
  - teaching C++ and operating systems at Imperial College London.
- September 2014 – **R&D Software Engineer**, *Alphanumeric Vision*, Orsay, France.
- January 2016 –
- working on a multi-platform **character recognition software** using **neural network** algorithms;
  - performance optimization using **multicore** and **CUDA** programming;
  - C++** programming using the Qt framework on Linux and Windows; **Android** development.
- October 2013 – **Teaching and Research Assistant**, *INSA, LIRIS laboratory*, Lyon, France.
- August 2014 –
- collaborating with the Laboratory of Informatics at Grenoble on the design of **accountable peer-to-peer systems**. Published in SRDS 2014;
  - collaborating with the University of Milano on the design of a framework for the design of **rational resilient collaborative systems**;
  - giving lectures at INSA Lyon (Java and databases; 174 hours).
- October 2010 – **Ph.D. student**, *LIG laboratory*, Grenoble, France.
- Designing **efficient and robust Byzantine fault-tolerant replication protocols**.
- January 2014 –
- designing, implementing and evaluating a **new Byzantine fault-tolerant replication protocol much more robust than the previous ones** (worst performance degradation <3%). Published in ICDCS 2013;
  - collaborating with several French universities as part of the French Research Agency project Soceda;
  - collaborating on the implementation of a **very efficient and robust** Byzantine fault-tolerant replication protocol with the “École Polytechnique Fédérale de Lausanne”. Published in the ACM TOCS journal;
  - giving lectures at Polytech Grenoble (Java, system programming and databases; 206 hours).
- April – May 2012 – **Parallel programming contest “Acceler8 your code”**, *Intel Corporation*.
- optimized and parallelized a reference algorithm solving the DNA Sequence Alignment problem;
  - finished 24/500, titled “Excellent software optimization skills”.
- February – June 2010 – **Designing an efficient communication mechanism for fault-tolerance on multicore machines**, *INRIA*, Grenoble, France.
- developing a **Linux driver** for communication on a multicore machine;
  - designing, implementing and evaluating a new communication mechanism which improves the performance of fault-tolerant applications running on a multicore machine by up to 100%.

## Publications

- June 2018 **EndBox: Scalable Middlebox Functions Using Client-Side Trusted Execution**, *Proceedings of the 48th International Conference on Dependable Systems and Networks (DSN)*, rank A.
- June 2018 **Troxy: Transparent Access to Byzantine Fault-Tolerant Systems**, *Proceedings of the 48th International Conference on Dependable Systems and Networks (DSN)*, rank A.
- April 2018 **LibSEAL: Revealing Service Integrity Violations Using Trusted Execution**, *Proceedings of the ACM European Conference on Computer Systems (EuroSys)*, rank A.

