

Thomas Pasquier

tfjmp2@cam.ac.uk

Department of Computer Science and Technology
Computer Laboratory
University of Cambridge
JJ Thomson Avenue
Cambridge CB3 0FD
United Kingdom

Academic Experience

- | | |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017–present | Research Associate at University of Cambridge I am a Research Associate in the Digital Technology Group. I work on the applications of digital provenance. My work is funded from industry donations and I am involved in a DARPA grant. |
| 2016–2017 | Postdoctoral Fellow at Harvard University I was a Postdoctoral Fellow at the Center for Research on Computation and Society. I worked on grant NSF SSI-1450277 <i>Collaborative Research: Bringing End-to-End Provenance to Scientists</i> and NSF ACI-1448123 <i>Citation++: Data Citation, Provenance, and Documentation</i> . |
| 2013–2016 | Graduate Research Assistant at University of Cambridge I worked as a research assistant under the EPSRC EP/K011510 CloudSafetyNet grant. |

Education

- | | |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2012–2016 | PhD in Computer Science Dissertation: <i>“Towards practical information flow control and audit”</i> University of Cambridge, United Kingdom |
| 2011–2012 | MPhil in Computer Science Distinction Dissertation: <i>“Prevention of Identity Inference in De-Identified Medical Records”</i> University of Cambridge, United Kingdom. |
| 2008 – 2011 | Diplôme d’Ingénieur in Software R&D Examining comity praise (Félicitation du jury) Institut Supérieur d’Électronique de Paris, France |
| 2006 – 2008 | Diplôme Universitaire de Technologie in EEE Examining comity praise (Félicitation du jury) Conservatoire National des Arts et Métiers, France |

Teaching Experience

| | |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2018-present | Operating Systems at University of Cambridge I supervised the Part IA (first year undergraduate) Operating Systems course. |
| 2017-present | Undergraduate Mentorship at University of Cambridge I mentored Part II (final year undergraduate) students projects. |
| 2016-2017 | Graduate Mentorship at Harvard University I mentored PhD students, these interactions led to several publications. |
| 2016-2017 | Undergraduate Mentorship at Harvard University I mentored undergraduate students research projects and internships. |
| 2016 | Operating Systems at University of Cambridge I supervised the Part IA (first year undergraduate) Operating Systems course. |
| 2012–2016 | Concurrent and Distributed Systems at University of Cambridge I supervised the Part IB (second year undergraduate) Concurrent and Distributed Systems course. |
| 2013–2016 | GCSE, A-level in Computing at Cambridge Centre for Sixth-form Studies I was a teacher in a high-school where I taught students aged 15-19 preparing GCSE, As-level and A-level Computer Science. |

Industry Experience

| | |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2012 | R&D Software Engineer at Public Health England , Cambridge I worked on building a secure prototype web portal to allow brain tumour patients and their carers to access medical records online. |
| 2008–2011 | R&D Software Engineer at Gemalto, Paris I worked in Gemalto's main R&D department on smartcard-backed online identity, in use cases for government agencies, an international Telecom company and a large UK bank. I also participated in the development of a debugging tool for remote e-passport application for the Australian government. |
| 2006–2008 | R&D Electronic Engineer at SRETT, Paris I started as an electronic engineer building and designing a prototype for a wireless sensor network. My job scope quickly moved to embedded software engineering for micro-controllers. I also designed and programmed an automated "out of factory" test bench for medical wireless sensors. |

Fellowships

| | |
|----------------|--------------------------------------------------------------------------------------------------|
| 2018 - present | Research Fellow St Edmund's College, University of Cambridge |
| 2016 - 2017 | Postdoctoral Fellow Center for Research on Computation and Society, Harvard University |

Research Projects

| | |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2018–present | EPSRC DataBox Databox is a collaboration between Imperial College London, the University of Cambridge and the University of Nottingham. This project explore the development of the Databox as means of enhancing accountability and giving individuals control over the use of their personal data. |
| 2016–present | NSF End-to-end Provenance End-to-end Provenance is a collaboration between the Harvard School of Engineering and Applied Science, and Harvard Forest. The project aims to leverage provenance tools to help the reproduction and authentication of scientific results. |
| 2016–2017 | NSF Citation++ Citation++ is a collaboration between the Harvard School of Engineering and Applied Science, and Harvard Institute for Quantitative Social Science. The project aims to integrate provenance support in the <i>dataverse</i> open-source data repository platform developed at Harvard and used by more than 25 academic institutions around the world. |
| 2014–present | Microsoft Cloud Computing Research Centre (MCCRC) The Microsoft Cloud Computing Research Centre (MCCRC) is a virtual research centre in which technology lawyers and computer scientists are working collaboratively on research challenges in cloud computing where technology and regulation intersect. This collaboration involves the Cloud Legal Project at the Centre for Commercial Law Studies, Queen Mary University of London and the University of Cambridge Computer Laboratory. |
| 2013–2016 | EPSRC CloudSafetyNet CloudSafetyNet is a collaboration between the University of Cambridge, Computer Laboratory and Imperial College London, Department of Computing. The project aims to rethink fundamentally how Platform-as-a-Service (PaaS) clouds should handle security by exploring the use of Information Flow Control. |
| 2008–2011 | Federation des Cercles de Confiance (FC2) FC2 is a French government founded research project around digital identity, smartcards and online payments. It involved industrial (Gemalto, Orange, Atos, EADS) and academic (Conservatoire National des Arts et Métiers, ENSI Caen, Telecom Paris-Sud) partners. Applications ranged from a secure login for police officers, online payments and registration to government services (schools, local government social actions). |

Languages

| | |
|----------------|---------------|
| English | Fluent |
| French | Mother tongue |

Publications

Journal Articles

PASQUIER, T., LAU, M., HAN, X., FONG, E., LERNER, B., BOOSE, E., CROSAS, M., ELLISON, A., AND SELTZER, M. Sharing and Preserving Computational Analyses for Posterity with encapsulator. *IEEE Computing in Science and Engineering (CiSE)* (accepted)

PASQUIER, T., SINGH, J., POWLES, J., EYERS, D., SELTZER, M., AND BACON, J. Data provenance to audit compliance with privacy policy in the Internet of Things. *Springer Personal and Ubiquitous Computing* (2018)

PASQUIER, T., LAU, M., TRISOVIC, A., BOOSE, E., COUTURIER, B., ELLISON, A., GIBSON, V., JONES, C., AND SELTZER, M. If these data could talk. *Nature Scientific Data* (2017)

SINGH, J., PASQUIER, T., BACON, J., KO, H., AND EYERS, D. Twenty Cloud Security Considerations for Supporting the Internet of Things. *IEEE Internet of Things Journal* (2016)

PASQUIER, T., SINGH, J., EYERS, D., AND BACON, J. CamFlow: Managed Data-Sharing for Cloud Services. *IEEE Transactions on Cloud Computing* (2015)

SINGH, J., POWLES, J., PASQUIER, T., AND BACON, J. Data Flow Management and Compliance in Cloud Computing. *IEEE Cloud Computing Magazine* (2015)

BACON, J., EYERS, D., PASQUIER, T., SINGH, J., PAPAGIANNIS, I., AND PIETZUCH, P. Information Flow Control for Secure Cloud Computing. *IEEE Transactions on Network and System Management, SI Cloud Service Management* 11, 1 (2014), 76–89

Conference Papers

In Computer Science conferences papers go through a full peer review process.

PASQUIER, T., HAN, X., GOLDSTEIN, M., MOYER, T., EYERS, D., SELTZER, M., AND BACON, J. Practical whole-system provenance capture. In *Symposium on Cloud Computing (SoCC'17)* (2017), ACM

PASQUIER, T., EYERS, D., AND BACON, J. PHP2Uni: Building Unikernels using Scripting Language Transpilation. In *International Conference on Cloud Engineering (IC2E'17)* (2017), IEEE

SINGH, J., PASQUIER, T., BACON, J., DIACONU, R., POWLES, J., AND EYERS, D. Big Ideas paper:Policy-driven middleware for a legally-compliant Internet of Things. In *ACM/IFIP/Usenix Middleware* (2016), ACM

PASQUIER, T., BACON, J., SINGH, J., AND EYERS, D. Data-centric access control for cloud computing. In *Symposium on Access Control Models and Technologies* (2016), ACM

PASQUIER, T., SINGH, J., , BACON, J., AND EYERS, D. Information Flow Audit for PaaS clouds. In *International Conference on Cloud Computing Engineering (IC2E)* (2016), IEEE

PASQUIER, T., SINGH, J., AND BACON, J. Clouds of Things need Information Flow Control with Hardware Roots of Trust. In *International Conference on Cloud Computing Technology and Science (CloudCom'15)* (2015), IEEE

PASQUIER, T., SINGH, J., BACON, J., AND HERMANT, O. Managing Big Data with Information Flow Control. In *International Conference on Cloud Computing (CLOUD)* (2015), IEEE

SINGH, J., PASQUIER, T., AND BACON, J. Securing Tags to Control Information Flows within the Internet of Things. In *International Conference on Recent Advances in Internet of Things (RIoT'15)* (2015), IEEE

SINGH, J., PASQUIER, T., BACON, J., AND EYERS, D. Integrating Middleware with Information Flow Control. In *International Conference on Cloud Computing Engineering (IC2E)* (2015), IEEE

PASQUIER, T., BACON, J., AND EYERS, D. FlowK: Information Flow Control for the Cloud. In *International Conference on Cloud Computing Technology and Science (CloudCom'14)* (2014), IEEE

PASQUIER, T., BACON, J., AND SHAND, B. FlowR: Aspect Oriented Programming for Information Flow Control in Ruby. In *International Conference on Modularity* (2014), ACM

PASQUIER, T., SHAND, B., AND BACON, J. Information Flow Control for a Medical Web Portal. In *e-Society 2013* (2013), IADIS

Workshop Papers

In Computer Science workshop papers go through a full peer review process.

HAN, X., PASQUIER, T., RANJAN, T., GOLDSTEIN, M., AND SELTZER, M. FRAPpuccino: Fault-detection through Runtime Analysis of Provenance. In *Workshop on Hot Topics in Cloud Computing (HotCloud'17)* (2017), USENIX

PASQUIER, T., SINGH, J., AND BACON, J. Information Flow Control for Strong Protection with Flexible Sharing in PaaS. In *IC2E, International Workshop on Future of PaaS* (2015), IEEE

PASQUIER, T., AND POWLES, J. Expressing and Enforcing Location Requirements in the Cloud using Information Flow Control. In *IC2E International Workshop on Legal and Technical Issues in Cloud Computing (Claw'15)* (2015), IEEE

Technical Reports

PASQUIER, T. Towards practical information flow control and audit. Tech. Rep. UCAM-CL-TR-893, University of Cambridge, Computer Laboratory, July 2016

SINGH, J., BACON, J., CROWCROFT, J., MADHAVAPEDDY, A., PASQUIER, T., HON, W. K., AND MILLARD, C. Regional Clouds: Technical Considerations. Tech. Rep. UCAM-CL-TR-863, University of Cambridge, Computer Laboratory, 2014

SMADJA, P., AND PASQUIER, T. eID - STS, Reading eID Smartcard Attributes to Generate Proven Identity. Tech. rep., Gemalto, FC2 Consortium, 2010

SMADJA, P., AND PASQUIER, T. GTK Selector, Enables Generic Smartcard Authentication. Tech. rep., Gemalto, FC2 Consortium, 2010

Invited Talks

08 Jan 2018 | **Towards practical whole-system provenance**, University of Edinburgh
Institute for Computing Systems Architecture Colloquium

Service

Program committee

| | |
|------|---------------------------------------------------------------------------------------------------------|
| 2017 | USENIX Workshop on Theory and Practices of Provenance |
| 2017 | ACM Workshop on Middleware and Applications for the Internet of Things |
| 2017 | IEEE International Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things |
| 2017 | ACM International Workshop on Mashups of Things and APIs |
| 2016 | IEEE International Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things |
| 2016 | ACM International Workshop on Mashups of Things and APIs |

Organizing Committee

| | |
|------|----------------------------------------------------|
| 2018 | Provenance-based Security Workshop |
| 2017 | IEEE International Conference on Cloud Engineering |

Journal reviewing

| |
|---------------------------------------------|
| ACM Transactions on the Web |
| IEEE Transactions on Cloud Computing |
| Elsevier Future Generation Computer Systems |
| Elsevier Computer Standards & Interfaces |
| MDPI Sensors |