Personal information

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Nationality(-ies)	French
Age	30 years old
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Current Position

Since 2014	**Research Associate at Imperial College, London, United Kingdom**
Research Topics	Distributed computing Scientific workflows Neuroinformatics
Since 2018	**Scientific consultant at Donaco Ltd**
	Donaco is a startup that aims to facilitate online donations. It dynamically embeds a widget in news media articles that recommends relevant charities to the reader and offers a seamless donation experience.
Activities	My role is to develop a **contextual recommendation pipeline using NLP techniques** and to feed its prediction to the Donaco widget.

Education

2010-2013	**PhD in Computer Science**
Title	*Contributions to Parallel Stochastic Simulation: Application of Good Software Engineering Practices to the Distribution of Pseudorandom Streams in Hybrid Monte-Carlo Simulations*
	Defended on October, 11^{th} 2013
College	Engineering Doctoral School, Blaise Pascal University, Clermont-Ferrand, France
Research laboratory	CNRS - UMR 6158 LIMOS
Advisor	Prof. David R.C. Hill
2007-2010	**Computer Science Engineering Degree** at ISIMA (Institut Supérieur d'Informatique, de Modélisation et de leurs Applications) College
	With Honours
University	Blaise Pascal University, Clermont-Ferrand, France

Awards

Best Paper Award	European Simulation and Modeling (ESM) Conference 2011, Guimares, Portugal
Best Scientific Contribution	Yearly Seminar of the Engineering Doctoral School, Blaise Pascal University, Clermont-Ferrand, France

Grants

AWS Research grants	Support the distribution of large scale connectomics experiments using the Human Connectome Project dataset
iEx.ec DApp challenge	Received $20,000 to support the integration of the iEx.ec computing resources market place in the OpenMOLE scientific platform

Conference organisation

2016- **BACON**: Workshop on Brain Analysis using COnnectivity Networks, satellite event of **MICCAI**

2016 Big Data in Medical Imaging, special session of **ISBI**

2015 Symposium on Big Data Initiatives for Connectomics Research, satellite event of the International conference on **Brain Informatics and Health**

Teaching and Scientific Seminars

Teaching

2016 **Functional programming in Haskell**
10h 1^{st} YEAR COMPUTING UNDERGRADUATE, IMPERIAL COLLEGE LONDON
2016 **Introduction to Java**
10h 1^{st} YEAR COMPUTING UNDERGRADUATE, IMPERIAL COLLEGE LONDON

2010-2013 **EGI Computing Grid labs**
10h 3^{rd} YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2013 **High Performance Computing course**
4h MRES IN COMPUTER SCIENCE, BLAISE PASCAL UNIVERSITY
2012-2013 **GPU Computing course**
16h 3^{rd} YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)

2010-2013 **C++ labs**
16h + 16h 2^{rd} & 3^{rd} YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2011 **Java course**
22h 2^{nd} YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)

2010-2011 **Software Engineering**
16h 1^{st} YEAR BSC IN COMPUTER SCIENCE, BLAISE PASCAL UNIVERSITY
2010-13 **UML tutorials**
8h 2^{nd} YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)

Recent Supervision

2018 **Federated machine learning on medical data using blockchain technology**, Théo Ryffel (MSc student in Computer Science, Imperial College London, UK / École Polytechnique, France)

2018 **Off-chain computing: decentralized computing off the Ethereum blockchain**, Karow Maruf (MEng student in Computer Science, Imperial College London, UK)

2016 **Executing software containers in HPC environments: application to Docker containers in the OpenMOLE workflow engine**, Vincent Hage (MSc student in Computer Science, Imperial College London, UK / École des Mines de St-Étienne, France)

2016 **Cloud computing for big data experiments**, Adrian Draghici (MEng student in Computer Science, Imperial College London, UK)

2015 **Machine Learning for Load Balancing of workflows in heterogeneous distributed computing environments**, Hoel Kervadec (4^{th} year student in Computer Science, INSA Rennes, France)

Scientific Tutorials

2015 **Model Exploration Using OpenMOLE - a workflow engine for large scale distributed design of experiments and parameter tuning**, Tutorial at the IEEE High Performance Computing and Simulation Conference, Amsterdam, the Netherlands

2012 **How to Correctly Deal With Pseudorandom Numbers in Manycore Environments - Application to GPU programming with Shoverand**, Tutorial at the IEEE High Performance Computing and Simulation Conference, Madrid, Spain

Scientific Talks

2017 **Building an ecosystem of functional libraries for the OpenMOLE scientific platform: from batch jobs to automatic model parameter tuning**, ScalaX bytes, London, UK

2016 **GridScale: a Journey from Object-Oriented to (More) Functional Programming**, Scala eXchange, London, UK

2014 **Invited lecture on software engineering**, University of Pardubice, Czech Republic

2013 **How to Correctly Handle Pseudorandom Numbers on GPU Using Shoverand**, NVIDIA's GPU Technology Conference, San Jose, California, USA

Skills

Languages English (fluent), French (mother tongue)

Computer Science

Programming Languages C, C++, Java, CUDA, Scala, Bash Shell Scripts

Software Engineering Tools Git, CMake, Maven, Valgrind, GDB, Puppet, Salt, SBT

Operating System GNU Linux (Debian/Ubuntu)

Job Schedulers EMI, PBS/Torque, Slurm

Distributed Filesystems Ceph, GlusterFS

Sport

Karate Distinguished athlete (national and international medallist)
Member of the England National A Squad
Black Belt (4^{th} dan)
Professional instructor degree

Selected Publications

Complete list available at https://orcid.org/0000-0003-3178-9502/print

Peer-reviewed journal papers

[1] Jonathan Passerat-Palmbach, Romain Reuillon, Mathieu Leclaire, Antonios Makropoulos, Emma C. Robinson, Sarah Parisot, and Daniel Rueckert.
Reproducible large-scale neuroimaging studies with the openmole workflow management system.
Frontiers in Neuroinformatics, 11:21, 2017.

[2] Sarah Parisot, Salim Arslan, Jonathan Passerat-Palmbach, William M. Wells III, and Daniel Rueckert.
Group-wise parcellation of the cortex through multi-scale spectral clustering.
NeuroImage, 136:68 – 83, 2016.

[3] Jonathan Passerat-Palmbach, Jonathan Caux, Pierre Schweitzer, Pridi Siregar, Claude Mazel, and David R. C. Hill.
Harnessing aspect oriented programming on GPU: application to warp-level parallelism (WLP).
The International Journal of Computer Aided Engineering and Technology, 7:158–175, 2015.

[4] Jonathan Passerat-Palmbach, Claude Mazel, and David R. C. Hill.
TaskLocalRandom: a statistically sound substitute to pseudorandom number generation in parallel java tasks frameworks.
Concurrency and Computation: Practice and Experience, 2014.
doi:/10.1002/cpe.3214.

Book chapters

[5] Jonathan Passerat-Palmbach and David R. C. Hill.
OpenCL: a suitable solution to simplify and unify high performance computing developments.
In *Patterns for Parallel Programming on GPUs*, pages 189–209. Saxe-Coburg Publications, Stirlingshire, Scotland, frederic magoules edition, 2013.
to be published in GPU Design Patterns (ISSN 1759-3158).

Peer-reviewed Proceedings of International Conferences

[6] Romain Reuillon, Mathieu Leclaire, and Jonathan Passerat-Palmbach.
Model Exploration Using OpenMOLE - a workflow engine for large scale distributed design of experiments and parameter tuning.
In *IEEE High Performance Computing and Simulation conference 2015*, pages 1–8, Amsterdam, Netherlands, jun 2015. IEEE.

[7] Lisa M Koch, Martin Rajchl, Tong Tong, Jonathan Passerat-Palmbach, Paul Aljabar, and Daniel Rueckert.
Multi-atlas segmentation as a graph labelling problem: Application to partially annotated atlas data.
In *International Conference on Information Processing in Medical Imaging*, pages 221–232. Springer, 2015.

[8] Sarah Parisot, Salim Arslan, Jonathan Passerat-Palmbach, William M Wells III, and Daniel Rueckert.
Tractography-driven groupwise multi-scale parcellation of the cortex.
In *International Conference on Information Processing in Medical Imaging*, pages 600–612. Springer, 2015.

[9] Sarah Parisot, Martin Rajchl, Jonathan Passerat-Palmbach, and Daniel Rueckert.
A continuous flow-maximisation approach to connectivity-driven cortical parcellation.
In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 165–172. Springer, 2015.

[10] Romain Reuillon, Mathieu Leclaire, and Jonathan Passerat-Palmbach.
Model exploration using openmole - a workflow engine for large scale distributed design of experiments and parameter tuning.
In *Proceedings of the IEEE High Performance Computing and Simulation conference*, pages 1–8, 2015.

[11] Jonathan Passerat-Palmbach, Mathieu Leclaire, Romain Reuillon, Zehan Wang, and Daniel Rueckert.
OpenMOLE: a Workflow Engine for Distributed Medical Image Analysis.
In *International Workshop on High Performance Computing for Biomedical Image Analysis (part of MICCAI 2014)*, Boston, United States, September 2014.

[12] Jonathan Passerat-Palmbach, Claude Mazel, and David R. C. Hill.
ThreadLocalMRG32k3a: a statistically sound substitute to pseudorandom number generation in parallel java applications.
In *Proceedings of the IEEE High Performance Computing and Simulation conference*, pages 543–550, 2012.
(nominated for the outstanding paper award).

[13] Jonathan Passerat-Palmbach, Jonathan Caux, Pridi Siregar, and David R. C. Hill.
Warp-level parallelism: Enabling multiple replications in parallel on GPU.
In *Proceedings of the European Simulation and Modeling Conference 2011*, pages 76–83, 2011.
ISBN: 978-90-77381-66-3 **(best paper award)**.