Grégory Vaumourin

Associated Researcher in Computer Architecture at Uppsala University (Sweden)

Topic of Research

- Emerging non-volatile memory technologies
- Memory systems optimizations including cache designs, data locality and coherence optimizations
- Compilation analysis and data locality optimization
- Computer-system architecture modeling and simulation

Education

2017-2019 **Associated Researcher** in the Uppsala Architecture Research Team (**UART**), Uppsala University (Sweden)
Description: Analyzing the opportunity of the new non-volatile memories technologies (NVM) for cache-based memory systems both in hardware and software point of views with Pr. Black-Schaffer and Pr. Jimborean.

2013-2016 **PhD Degree in Electrical Engineering** from the University of Bordeaux (France).
Description: Hardware/Software co-design for data locality and coherence optimization in memory system for energy efficiency
Thesis done under the supervision Pr. **Denis Barthou** and Thomas Dombek at **CEA LIST** and **INRIA Bordeaux** and defended the 4th October 2016. Details avalaible **here**
Tools: **Gem5 simulator**, **McPAT**, **Pintools**, **GCC**

2013 **6 months Internship** at CEA-LETI Grenoble (France)
Description: Participation in the national research project **GRECO** (GReen wireless Communicating Object) targetting low-power communicating networks. Developpement in the **WSNet simulator** for an industrial use-case simulation of an energy harvesting wireless sensor network (EH-WSN)

2008-2013 **Master degree** in Computer Engineering at National Institute of Applied Science (INSA) – Rennes (France)

Scientific Publications

2018 **DB-AMB: Dataset-Based Allocation, Migration, and Bypassing in hybrid non-volatile/SRAM caches**
Vaumourin G., Jimborean A. and Black-Schaffer D.
Under Review at IEEE Transaction on Computers **pre-print**

2017 **Dedicated read-only/read-write cache design for data locality and coherence optimization**
Vaumourin G., Dombek T., Guerre A., Barthou D.
Technical Report **print**

2016 **Specific Read-only Data Management for Memory System Optimization**
Vaumourin G., Dombek T., Guerre A., Barthou D.

The 24th Euromicro International Conference on Parallel, Distributed and Network-Based Processing (PDP'16)

2015 **Co-simulating complex energy harvesting WSN applications: an in-tunnel wind powered monitoring example**
Le Quang V., Didioui A., Vaumourin G., Bernier C., Broekaert F., Fritsch A.
International Journal of Sensor Networks (IJSNet)

2014 **Specific read only data management for memory hierarchy optimization**
Vaumourin G., Dombek T., Guerre A., Barthou D.
EWiLi'14, The 4th Embedded Operating Systems Workshop [**pdf**]

Teaching and organization activities

- **2018**: Co-Supervision with David Black-Schaffer of a PhD Student. Project on analyzing SPEC2017 benchmarks memory behavior
- **2018**: Sub-Reviewer of the International European Conference on Parallel and Distributed Computing Conference (**EuroPar'18**)
- **2017**: Co-Organizer of the 10th edition of the **Scandinavian Multi-Core Workshop**: **MCC workshop**
- **2017**: Member of the ACM's Women in Computing **Uppsala Chapter**. Organization of the **Ada Lovelace Celebration**
- **2016**: Teacher Assistant for Embbeded system and Hardware Programmation at IUT de Cachan (France) for 1 year

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