Ognjen **Glamočanin**

Computer Science PhD Student

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Education

EPFL, Ecole Polytechnique Fédérale de Lausanne — *Lausanne, Switzerland*

PhD in Computer Science — ***Expected grad: June 2023***

- Research Area: Security of FPGAs in the Cloud
- Relevant Courses: Software Security

Sorbonne Université, Paris VI — *Paris, France*

M.S. in Computer Science — *2017 – 2018*

- Relevant Courses: Advanced Computer Architecture

University of Novi Sad, Faculty of Technical Sciences — *Novi Sad, Serbia*

B.S. with Honours in Electrical Engineering — *2013 – 2017*

- Relevant Courses: **Algorithms and Complexity**, **Programming Languages and Data Structures**, Computer Architecture, Digital Circuit Design

Work Experience

ARM FRANCE — *Sophia Antipolis, France*

CPU Micro-Architecture and Design Intern — *Mar 2018 – Aug 2018*

- Used **Python** to model the correlation between CPU events and simulated layout-level CPU power consumption
- Integrated the power prediction model in the **C++** cycle-approximate CPU simulator and enabled fast power consumption estimation

FROBAS D.O.O. — *Novi Sad, Serbia*

Machine Learning Hardware Acceleration Intern — *Nov 2016 – Jun 2017*

- Used **VHDL** to design and verify a hardware accelerator for multi-layer perceptron (MLP) artificial neural networks (ANNs)

ELSYS EASTERN EUROPE — *Belgrade, Serbia*

Hardware Functional Verification Intern — *Jul 2016 – Oct 2016*

- Used **SystemVerilog** and the **UVM methodology** to build a complete functional verification environment for an OCP2UART bridge

Teaching Experience

EPFL — *Lausanne, Switzerland*

Teaching Assistant — *Feb 2019 – ongoing*

- *Information, Computation, Communication*: Leading lab sessions in **Python** and **C** for 1st year B.S. students
- *Computer Architecture*: Leading lab sessions in **VHDL** and **ASM** for 2nd year B.S. students
- *System Programming Project*: Leading lab session in **C** for 2nd year B.S. students

University of Novi Sad — *Novi Sad, Serbia*

Teaching Assistant — *Sep 2016 – Jun 2017*

- *Electrical Circuit Theory*: Leading computer lab sessions in **MATLAB** for 2nd year B.S. students
- *Systems and Signals*: Leading computer lab sessions in **MATLAB** for 2nd year B.S. students

Publications

2020 **Are Cloud FPGAs Really Vulnerable to Power-Analysis Attacks?**, DATE'20 — *Grenoble, France*

2020 **Built-In Self-Evaluation of First-Order Power Side-Channel Leakage for FPGAs**, ISFPGA'20 — *Seaside, CA, USA*

Honors & Awards

2018 **EPFL EDIC Fellowship**, — *Switzerland*
Fellowship for first-year PhD students

2017 **French Government Scholarship for International Students**, — *France*
Full scholarship for master studies in France

2016 **Dr Vladan Desnica Award**, — *Serbia*
Best student of the microcomputer electronics track

Projects

Remote Power Side-Channel Attack on AWS F1 Instances

Research Project

- Used **VHDL** to implement a voltage sensor that records AES encryption traces on an FPGA deployed on remote AWS F1 Instances
- Created a highly optimized **C** program to attack the sensor power traces and extract the secret key from the AES core

Remote Evaluation of First-Order Power Side-Channel Leakage for FPGAs

Research Project

- Used **VHDL** to implement an FPGA-based voltage-drop sensor to measure internal voltage of an FPGA
- Built an IP core that evaluates the side-channel leakage from the sensor traces, on-the-fly

Circuit Equivalence Checking Using Quantum Grover's Algorithm

Quantum Computing Course, Project

- Used **Python** and **Bash** to create a tool that performs circuit equivalence checking using quantum Grover's algorithm

C-3PU

Computer Architecture Course, Project

- Designed a small multi-cycle RISC processor in **VHDL**

Digital Keyboard

Advanced Embedded Systems Course, Project

- Used **C** and audio electronics design to build an electronic keyboard based on a 8051 micro-controller and audio amplifiers

Solar Power Bank

Applied Electronics Course, Project

- Designed and fabricated a portable device charger with a solar panel used for charging mobile phones

Technical Skills

Programming languages:	C/C++ (8yrs), Python (4yrs), SystemVerilog, ASM, MATLAB
Scripting languages:	Python, Bash, TCL
Hardware description languages:	VHDL (7yrs), SystemC
CAD EDA tools:	Xilinx ISE, Xilinx Vivado, Cadence NCSim

Extracurricular Activities

The Illuminations of Jules Verne — *Novi Sad, Serbia*

Festival Coordinator — *2012 – 2015*

- Head coordinator of the music part of the festival of light, music and lanterns *The Illuminations of Jules Verne*
- Created and coordinated the music program, logistics
- `https://www.facebook.com/ZilvernovskeIluminacije/`

Talent'ernes: Passeurs de Lumiere — *Hotton, Belgium*

Mobility of Youth Workers (K1) Project Participant — *Aug 2016*

- One week job shadowing program with a Belgium organisation *Miroir Vagabond*

Registered LEGO User Group Skockani — *Serbia*

Active AFOL Member — *2016 – ongoing*

- Active member of the RLUG Skockani, participated with creations in numerous LEGO exhibitions across Serbia

Lausanne University Choir — *Lausanne*

Tenor — *2018 – ongoing*

Male Vocal Ensemble *Bajić* — *Serbia*

Tenor 2 — *2013 – 2017*

- 2nd award at the *Ohrid Choir Festival* in Ohrid, North Macedonia
- `https://www.youtube.com/channel/UCFUnPD_fSIokYbK4U2cl6sw`

Choir of the Graduates of the Grammar School *Jovan Jovanović Zmaj* — *Serbia*

Tenor — *2013 – 2017*

Choir of the Grammar School *Jovan Jovanović Zmaj* — *Serbia*

Tenor — *2009 – 2013*

- Three gold medals on international choir competitions

Languages

Serbian: Mother tongue
English: fluent (level C2)
French: fluent (level C1)
German: beginner (level A1)

Artistic Skills and Competences

LEGO Custom Builder

HTTPS://WWW.FLICKR.COM/PHOTOS/188713379@N06/

Choir Music Composer