Viktor Sanca

He/Him

e-mail: viktor.sanca@epfl.ch
phone: +41 78 649 91 02
nationality: Serbian, Hungarian
website: www.viktorsanca.com
address: EPFL IC IINFCOM DIAS, BC 240, Station 14, 1015 Lausanne, Switzerland

Updated: 10.07.2022.

Education

2018- EDIC Doctoral School, Data-Intensive Applications and Systems Laboratory
EPFL, Lausanne, Switzerland
Thesis proposal: Workload-Conscious Approximate Analytics
Thesis advisor: Prof. Anastasia Ailamaki (anastasia.ailamaki@epfl.ch)
Research interests: approximate query processing, high-performance systems, cloud computing, scalable analytical query processing, ML for systems, systems for ML, modern hardware

2017-2018 Master's Research Scholar Program in Computer Science
EPFL, Lausanne, Switzerland

2013-2017 Bachelor with Honours in Electrical and Computer Engineering
Computing and Control Engineering, Applied Computer Science and Informatics
Faculty of Technical Sciences, Novi Sad, Serbia. GPA: 10.00/10.00.
Thesis: *Application of Computational Intelligence Techniques in Localization and Classification of Traffic Signs in Digital Images*

Teaching

2020-2022 Head teaching assistant: *Introduction to Database Systems* (CS-322)
Professors: Anastasia Ailamaki, Christoph Koch
Role: Creating and improving the teaching materials, exams, and infrastructure for 250 students. Mentoring and guiding junior teaching assistants. Transferring the course materials to support fully online and hybrid teaching and examination for reduced on-site presence.

2019-2020 Initiated and co-designed Machine Learning for Database Systems course (CS-726)
Professors: Anastasia Ailamaki, Christoph Koch

2019-2021 Teaching assistant: *Introduction, Calcul, Communicatio*n course (CS-119d)
Professor: Jean-Cedric Chappelier

2019 Teaching assistant: *Introduction to Database Systems* (CS-322)
Professors: Anastasia Ailamaki, Christoph Koch

Activities

2019-2021 EU H2020 Project: Sustainable Data Lakes for Extreme-Scale Analytics
EPFL, Lausanne, Switzerland. www.smartdatalake.eu
Role: Research and development on top of the in-house high-performance heterogeneous analytical engine Proteus (www.proteusdb.com) to enable storage tiering, approximate query processing, and high-performance integration with project components of other participating partners, especially with the RAW labs and TU Eindhoven research and industrial partners. Presenting and discussing the progress, design, and research ideas with the project partners. Preparing, reviewing, and participating in the project reporting and presentations, leading to successful project evaluation.

2017-2018 EU ERC 2017 PoC: ViDaR: R-enabled large-scale data analytics in ViDa
EPFL, Lausanne, Switzerland. Supervisors: Odysseas Papapetrou, Tahir Azim
Role: Research and development for developing an R-based interface to enable faster analytics with low additional coding overhead for scientific users while keeping interoperability with existing tools and libraries, on top of the high-performance in-house analytical engine Proteus. Explored the full system stack and low-level system primitives written in C++/LLVM, learned high-performance analytics, query optimization in Apache Calcite, and the language primitives of the R programming language, and developed and evaluated a successful system prototype.

2016 Summer@EPFL
EPFL, Lausanne, Switzerland. Data-Intensive Applications and Systems Lab
Supevisor: Darius Šidlauskas
Role: Research and development to improve the usability of cutting-edge research prototypes of spatial indexes written in C++ by exposing the functionality to users in the Python ecosystem. Developed and benchmarked low-overhead code wrappers and demonstrated the interoperability of the existing high-performance codebase by simulating a scientific workflow fully in Jupyter Notebooks, showing how to improve the usability of system prototypes without having to reimplement the codebase on the platform and languages of the intended users.

Awards

2020, 2021 Distinguished service award
Awarded by EDIC Doctoral School, EPFL

2017 The best student in the Faculty of Technical Sciences
For the class that started in 2013/2014 – among all the sections of the Faculty
Awarded by the Faculty of Technical Sciences, University of Novi Sad

Exceptional award for overall undergraduate studies
Awarded by the University of Novi Sad (obtained perfect GPA of 10.00/10.00)

Momčilo Momo Novković Charter
"For the enthusiasm and exceptional results in curricular and extracurricular activities during studies, for dedication to pedagogical work and contribution in promotion of Faculty of Technical Sciences on the national and international level" **– bachelor student category**
Awarded annually to a student per study level of the Faculty of Technical Sciences

2014, 2015, 2016 Exceptional award for accomplishments in studies
Awarded by the University of Novi Sad (maintaining a GPA of 10.00/10.00)

2015 University award for the student scientific and research paper
The semantics of Programming Languages. **Awarded by the University of Novi Sad**

Fellowships and Scholarships

2018-2019 EPFL EDIC Doctoral Fellowship
EDIC Doctoral School Fellowship, EPFL

2017-2018 EPFL Computer Science Research Scholars Program
Data-Intensive Applications and Systems Lab, EPFL

2015-2017 University of Novi Sad Scholarship
Fund for the Facilitation of Progress of Young Researchers, Talented Students, and Artists

2014-2015 Serbian Ministry of Education, Science, and Technological Progress Fellowship
State-awarded scholarship

Languages

Serbian: Native speaker
English: Fluent (*Certificate in Advanced English, University of Cambridge, grade: A, level C2*)
Hungarian: Conversational
German: Beginner (*Goethe Institut, level A1*)
French: Intermediate (*EPFL Centre des Langues, level B1*)

Technical Skills and Interests

System: Unix, Windows
Programming: C++, Scala, LLVM, VHDL, C, C#, Assembly, R, Java, Python, SQL, PL/SQL, JavaScript
Software: LaTex, Matlab, Adobe Suite, Oracle DBMS, MySQL DBMS, familiar with Web technologies
Memberships: EPFL IC PhD Student Association Committee member (2020-2022), ACM, IEEE.

Research interests: Systems, Approximate Query Processing, High-Performance Analytics, Cloud Computing, Machine Learning for Systems, Systems for Machine Learning, Modern Hardware.

Goal: Design fair, cost-, time-, and energy-efficient analytics for modern hardware platforms.