DEJAN GRUBISIC

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https://dejangrubisic.github.io

ABOUT ME

Programming Languages: C/C++, Python, CudaC, Java, Bash, VHDL

Technologies: OpenMP, MPI, Docker, Spark, Linux

Featured Skills: Parallel Computing, Compiler Construction, Profiling Tools

RESEARCH / WORK EXPERIENCE

Research Assistant Aug. 2019 – Present
High Performance Computing Lab, Rice University Houston, TX
- Infrastructure for scalable GPU tracing for HPCToolkit
- Support for collecting node level metrics and hardware counters from Nvidia/AMD GPUs
- Serialization analysis for GPU traces and performance advice

Summer Internship Jun. 2021 – Sep. 2021
Berkeley Lab Berkeley, California
- Profiling and analysis of power consumption on multi node GPU applications

Argonne Training Program on Extreme-Scale Computing Aug. 2021 – Aug. 2021
Argonne Lab DuPage County, Illinois
- Hands-on tutorials on cutting-edge supercomputing

Master Thesis Jan. 2019 – July 2019
University of Novi Sad Novi Sad, Serbia
- **Finding multi-source shortest path in dynamic large-scale graph, based on Lambda architecture**
- Used pySpark - logic, HDFS - storage, Kafka - communication, Pyton Dash - visualisation and Docker - containerisation

Bachelor Thesis Jan. 2018 – July 2019
University of Novi Sad Novi Sad, Serbia
- **FPGA design of hardware core for acceleration of chess engine**
- Used SystemC - modeling, VHDL - design, SystemVerilog - verification

Summer Internship Jun. 2017 – Sep. 2017
Institute for High Performance Microelectronics Frankfurt O, Germany
- Profiling and Analysis of FFT implementation on Xtensa Platform in C
- Dhrystone Benchmark for FFT and theoretical analysis window functions

TEACHING AND COURSE PROJECTS

Teaching Assistant Jan. 2020 – Dec. 2020
Rice University Houston, TX
- Teaching undergraduate and graduate compiler construction course
- Designing the final project for graduate course

Course Projects Aug. 2019 – Dec. 2020
Rice University Houston, TX
- **Artificial Intelligence** – Pacwar : Finding the strongest gene by using genetic algorithms
- **Multiprocessing** – Lock free concurrent skip list
- **Parallel Computing** – Parallel optimizations using Cilk, OpenMP, OpenMPI, Cuda
- **Compiler Construction** – Design of scanner, parser, registar allocator and instruction schedulers

University of Novi Sad

- **Electrical Engineering** – Device for metal detection

PUBLICATIONS

Measurement and Analysis of GPU-Accelerated OpenCL Computations on Intel GPUs November 2021
ProTools Workshop paper (Manuscript under submission.)

An Automated Tool for Analysis and Tuning of GPU-accelerated Code in HPC Applications Februar 2021
IEEE Transactions on Parallel and Distributed Systems (Manuscript under submission.)

Measurement and Analysis of GPU-accelerated Applications with HpcToolkit November 2020
Parallel Computing Journal

EDUCATION

Doctorate of Science | ***High Performance Computing*** Aug. 2019 – May 2024
Rice University | GPA: 3.63 Houston, TX

Master of Science | ***Big Data Architectures*** Aug. 2018 – May 2019
University of Novi Sad | GPA: 4.00 Novi Sad, Serbia

Bachelor of Science | ***Electrical and Computer Engineering*** Aug. 2014 – May 2018
University of Novi Sad | GPA: 3.96 Novi Sad, Serbia

For all passed courses check here All Courses