Post-Doctoral Position in Machine Learning for FPGA CAD

Position:

The FPGA CAD Group at the University of Guelph, Ontario, Canada, invites applications for a 12-month post-doctoral position in FPGA CAD. This is a strictly research position that does not carry any teaching responsibilities. A stipend of approximately $50,000 Canadian dollars accompanies the 1-year position.

FPGA CAD Group:

The FPGA CAD group is led by two faculty members at the University of Guelph who supervise post-doctoral, PhD and MSc students whose research is related directly to FPGA architectures, CAD tools, and applications. The group works closely with leading companies, such as NGCodec and Huawei, where reconfigurable computing is a critical technology. Today, this group is addressing challenges in hardware accelerators, electronic design automation, machine learning and deep learning.

Job Description:

Machine Learning (ML) and Deep Learning (DL) offer fresh paradigms to revise or completely redesign traditional FPGA CAD tools. The FPGA CAD Group seeks a talented researcher to lead and impact state-of-the-art research and development in the area of *smart place-and-route* for modern FPGA devices. The project will combine ML/DL and traditional place-and-route methods to create intelligent place-and-route tools with improved runtimes and quality-of-result compared to other academic and industrial tools. The successful candidate will lead research in ML and DL for CAD, create and tune deep nets for CAD, collaborate with other group members, publish results in top tier conferences and journals, and contribute to or lead proposals.

Qualifications:

- PhD or equivalent experience in Computer Science, Electrical Engineering or Computer Engineering with experience in designing and implementing innovative machine learning and deep learning systems in software.
- Strong software engineering experience, including demonstrable contributions to large-scale projects. Commercial or open-source development experience a plus.
- Experience training and tuning deep-learning models in one or more deep learning frameworks such as MXNet, TensorFlow, Caffe/Caffe2, or PyTorch/Torch
- Experience bringing machine-learning models from research to production.
- Solid understanding of Computer Science fundaments in algorithm design, complexity analysis, problem solving and diagnosis.
- An interest in applying machine learning and deep learning to FPGA CAD
- Excellent communication skills (written and verbal) in English.
- Rigor, sense of initiative, enthusiastic, able to work independently
- Excellent publication record

Contact Information: Interested applicants are encouraged to contact Shawki Areibi (sareibi@uoguelph.ca) and Gary Grewal (ggrewal@uoguelph.ca) Please attach your most recent CV, transcripts, and publications.