Syed Tousif Ahmed

https://syed-ahmed.github.io/

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Education

University of Pennsylvania — Philadelphia, PA
M.S.E. Electrical and Systems Engineering. Specialized in SoC Architecture and EDA Tools. August 2019 – December 2021

Rochester Institute of Technology — Rochester, NY
B.S. Computer Engineering. Mathematics Minor. Specialized in Deep Learning. *August 2013 – May 2018*

Experience

University of Pennsylvania — Philadelphia, PA
PhD Student *August 2019 – December 2021*

- Built tools that reduce FPGA compilation time (see publications). Assisted in teaching ESE 532 SoC Architecture, and authored handouts: https://icgrp.github.io/ese532_handouts/.

NVIDIA Corporation, Deep Learning Frameworks Team — Santa Clara, CA
Deep Learning Software Engineer *June 2018 – August 2019*

- Resolved several bugs and performance issues on both CPU and CUDA. Improved performance of several Random Number Generation kernels by upto 3x. A full list of contributions can be found here: https://github.com/pytorch/pytorch/commits?author=syed-ahmed.
- Managed CI test environment and released NVIDIA GPU Cloud PyTorch docker container monthly.
- Conducted technical interviews for software engineering positions. Participated in code reviews and collaborated with third party contributors.
- Got into top 100 PyTorch contributors list within 7 months of joining the team.

NVIDIA Corporation, Deep Learning Frameworks Team — Santa Clara, CA
Deep Learning Software Intern *May 2017 – August 2017*

- Designed and implemented Universal Framework Format Format (UFF) Converters for TensorFlow and Caffe2, released in TensorRT 3.0 RC.
- Analyzed performance of Caffe2 kernels for Seq2Seq models and made optimizations.

NextDroid, LLC (Startup) — Cambridge, MA
Deep Learning Engineering Intern *June 2016 – August 2016*

- Implemented road image segmentation models for a semi-autonomous/self-driving car.
- Created image segmentation web interface for mass data collection, that decreased data collection cost by 60%.

Ahold Delhaize — Quincy, MA
Computer Vision Developer (Co-op) *January 2016 – May 2016*

- Used tensorflow and caffe to do product image recognition using transfer learning.
- Made an augmented really iOS app that gives a location-aware shopping experience.

Skills

Programming Languages: C and C++, Python, ARM Assembly, Verilog.

Technologies: PyTorch, Tensorflow, CVXPY, CUDA, LLVM, Git, Docker, CMake, Xilinx Vitis, AWS, GCP.

Publications

Syed Tousif Ahmed, Andrew Butt, Yuanlong Xiao, André DeHon. *Do Blink: Scalable Verilog-to-partial-bitstream Mapping for Separate Compilation and Linking.* Under submission.

Yuanlong Xiao, **Syed Tousif Ahmed**, and André DeHon. *Fast Linking of Separately-Compiled FPGA Blocks without a NoC.* In Proceedings of the IEEE International Conference on Field-Programmable Technology, December, 2020.