Yash Akhauri

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EDUCATION

BITS Pilani
B.E. Electronics and Instrumentation
Expected May 2020

Ryan Global School
IGCSE 2014 | Kharghar, India
Percentage 90.1

SKILLS

Programming languages:
- Python
- C++
- Java
- Mathematica

Others:
- CUDA
- libGDX
- Linux
- Tensorflow
- OpenMP
- Android studio
- Excel
- Photoshop

An undergraduate student with a love for developing and a passion for computer vision. Enjoy scaling steep learning curves and constantly looking for multidisciplinary approaches to solve problems. Currently on the lookout for opportunities in the field of Artificial Intelligence.

EXPERIENCE

WOLFRAM | Undergraduate Researcher
June 2018 - July 2018 | Waltham, Massachusetts

- Conducting research on distributed mesh AI computing by introducing Hadamard Binary Neural Networks.
- Working on improving XNOR kernel performance and developing a parameter management system for distributed training.

LARSEN & TOUBRO | Intern
December 2016 | India

- Scraped and managed stock market data from BSE.
- Developed and tested several machine learning techniques to analyse stocks and developed investment strategies.

DEPARTMENT OF SPONSORSHIP | Core member
August 2016 – Present | India

- Department Of Sponsorship and Marketing looks after the budget of the technical fest of BITS Pilani, APOGEE and cultural fest of BITS Pilani, OASIS.
- Have made calls for sponsorship and media relations, handled sponsors on campus and brainstormed over branding avenues and marketing options.

PROJECTS

Hadamard Binary neural networks — C++, CUDA, OpenMP, Mathematica

Developing a neural network architecture that is meant to provide low latency, low powered solution for distributed mesh AI computing and offline inference. Presenting results at Intel AI DevCon, Bangalore. [Performance and accuracy analysis]

- Increased network inference speed 7x with only a 2% decrease in accuracy.
- Studied the High-Dimensional geometry of the new binarization scheme.
- Developed optimized GEMM and convolutional kernels for HBNN MLPs using OpenMP.

Whitepaper - Developing a distributed mesh computing platform optimized for Artificial Intelligence.
[Link]

xGEMM & xCONV — C++, CUDA, OpenMP

Coded efficient 3D convolutional and GEMM kernels for XNOR (bit quantized) networks using CUDA C programming and OpenMP. Optimized kernels are for Intel processors and Nvidia GPUs. Invited to present a poster at Intel AI DevCon and Intel AI Student Ambassador Summit, San Francisco. The codes can be found here: [OpenMP kernel] | [CUDA kernel].

Real time artistic style transfer — Python, Tensorflow, OpenCV

Developed an activation based Adaptive instance normalization technique. Worked on a pruned generator network with Instance normalization to give stylization speeds of 25 FPS at VR resolution. Integrated pruned network with Android IP Webcam for live stylization of camera feed. The technical article can be found [here.] The code can be found [here.]

GravDash Java, LibGDX, Android Studio

Developed an android game using Java and libGDX as the framework. The game can be found [here.]

Blog Python, Java, C++, Tensorflow, OpenMP

Maintaining a [blog] covering various AI related topics with over 9000 hits. Published 6 technical blogs on the Intel Software website.

AWARDS/PRESENTATIONS

Intel Nervana Early Innovators Grant $5000

Received research grant to develop Binary Precision Neural Networks and Real time Artistic Style Transfer.

Wolfram Research Grant $2400

Received aid to attend the Wolfram Summer School and develop Hadamard Binary Neural Networks.

Intel Travel and accommodation grant

Received a grant to present a poster at the Intel AI DevCon and the Intel AI Student Ambassador Summit, San Francisco .

KVPY Scholar

Inspire Scholar