Vijay Daultani

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EDUCATION

I.I.T DELHI
M.Tech in Computer Science
June 2014 | Delhi, New Delhi
C.G.P.A : 8.01

T.C.E.T INDORE
B.E in Computer Science
June 2010 | Indore, M.P
Aggregate : 80.03

N.G. JAIN H.S SEC SCHOOL
12TH
Grad. April 2005| M.P, India
Percentage : 84.2

LINKS

LinkedIn: **vijay-daultani**

SKILLS

PROGRAMMING
Over 5000 lines:
C • C++
Over 1000 lines:
SQL • HTML
Familiar:
SVN • GIT

EXPERIENCE

NEC JAPAN | Many Core Researcher
Machine Learning, CNN | Jan 2016 - Present | Tamagawa, Japan

- Currently working on machine learning, concretely on Convolution Neural Networks. My work is to research into existing and coming up with new algorithms for the convolution operation, to suit the NEC's SX architecture.

Optimal Instruction Selection | Oct 2015 - Present

- I started this project where I proposed a new algorithm for the instruction selection phase of the compiler, taking inspiration from multiple ways to perform the same operation in high level language.

Application Optimization | Oct 2014 - Oct 2015

- While working on bio metrics application like finger print matching, I focused on how to harness the power of the bare hardware, and generate the most efficient (usually time efficient) code for a given hardware (eg.NEC's SX, Intel Xeon), by using different techniques. These techniques range from most simple one like guiding the compilers for aligned memory access to the more rigorous one like changing the data structures and algorithms to suite the underlying hardware architecture.

UC BERKELEY | Researcher
Swarm Box Prototyping Project | Nov 2015 - Dec 2015 | Berkeley, U.S.A

- As a prototyping project I worked together on an IOT theme with swarm lab of UCB, on developing an application for the Elevator system. User of the Elevator while requesting a elevator car in the lobby also presses the respective floor's button on the android device mounted on the wall and depending upon the load of each elevator car we estimated waiting time and advised user whether to wait for an elevator car or take the stairs in order to reduce the total wait time.

PROJECTS

IIT DELHI | Research Scholar
Backend Of CGRA using LLVM | June 2013 - June 2014

- LLVM was used to compile computation intensive kernels for the customized ISA of CGRA. A parser then inspects the assembly generated by the LLVM, for data dependencies if any inserted during the process of compilation. A DAG was then constructed in accordance with the data dependencies. This DAG was then mapped onto the graph representation of the CGRA, such that the execution time for the program can be minimized.

Analyzing Energy Breakdown of Non-Uniform Cache Access (NUCA) | Jan 2013 - May 2013

- As a Minor Project I analyzed energy breakdown of Static and Dynamic NUCA (Non-Uniform Cache Access). Focus of my study was to analyze Power consumption and Heat generation patterns on NUCA architecture, for various Inter-Banks link data access patterns.

Pintos : Operating System framework of 80x86 | Jan 2013 - May 2013

- As a course project in Resource management in Computer Science I implemented following things in the framework of Pintos
- Loading and running user programs.
- Virtual Memory management and File system.