VIMA GUPTA

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EDUCATION

Master's in Computer Systems and Software (ECE) *GPA 4.0/4.0, Dec '22*
Georgia Institute of Technology, Atlanta, Georgia
Relevant Coursework: Advanced Computer Architecture, Interconnection Networks for High Performance Systems, Computation and the brain, Advanced Operating Systems, Advanced Programming Techniques

B.E.(Hons.) Electrical and Electronics Engineering *GPA 8.07/10, July '18*
Birla Institute of Technology and Science, Pilani Campus, Rajasthan
Relevant Coursework: Computer Architecture, Analog and Digital VLSI Design, Neural Networks and Fuzzy Logic, Control Systems

SKILLS

Expertise: High Performance System design for single processor, multi-core processor, subsystem and interconnect with front-end and back-end expertise.

Languages and Framework: C++, Pytorch, Python, Verilog, Assembly, Perl, Tcl, MATLAB, COMSOL, MS Office, Cadence and Synopsys Suites for end to end physical design.

Soft skills: Public speaking (Paper and poster presentations), collaboration (worked on projects spanning multiple teams across the globe) and problem solving.

EXPERIENCE

Graduate Teaching Assistant Jan'21 - present
OMSCS-6476 Introduction to Computer Vision

· Maintenance and restructuring of existing assignments and creation of new problem statements.
· Responsible for doubt clearance, grading and customising assignments as per the course requirement.

Arm Embedded Technologies July'18 - Dec'20
Interim Tech lead, Design Engineer, Intern, Physical Design Group

· Mentored two consultants and one intern in the capacity of a technical lead for IoT subsystem design and implementation.
· Pioneered ideation and marketing research with Automotive and IoT Line of Business and senior directors to arrive on a new product specification for a competitive edge in the open-source ecosystem.
· Full fledged physical design implementation of various octa-core configurations on latest Arm V9 cores for (4nm, 5nm and 11nm) technology nodes across foundries from synthesis to GDS2 across tools.
· Substantial experience with pre-sales work and customer facing projects from around the globe, including ideation and deployment of customised clock trees across A, R and M class cores and aging estimation for Automotive chips using Machine Learning techniques.

Research Intern, CADSL Dec'16 - Jan'17
IIT Bombay, Powai

· Built a multi-cycle processor on Verilog for a Turing complete ISA

Research Intern, Energetics and Electromagnetics Division May'16 - July'16
Bhabha Atomic Research Centre, Vizag

· Testing of high power RF sensors compliant with MIL-STD-461

PROJECTS

Out of order execution in a superscalar pipelined processor with precise interrupts via use of a ROB Jan'21 - May'21

· Implemented and evaluated the performance of a superscalar processor simulation from scratch.

Physical Design Aware NoC design for DNN Inference Accelerator, MAERI. Jan'21 - May'21

· Proposed and automated modifications in the existing MAERI architecture to make it more layout friendly.

Meta-learning biologically plausible update rules for unsupervised and semi-supervised representation learning. Jan'21 - May'21

· Designed and trained recurrent neural network to identify their advantage for unsupervised learning from a biological plausibility standpoint.

Evaluating prediction of dynamic flight pricing using neural networks Jan'18 - May'18

· Implemented and evaluated the performance of seven neural networks like Random Forest and deep neural networks using Python libraries on flight data for 15 routes for a period of 30 days.

RISC-V implementation and analysis from image processing perspective Aug'16 - Dec'16

· Simulated developing open source instruction set architecture namely, RISC-V (byte addressed memory) which implements a unique placeholder register to function as better load-store machine.Binarization of standard images and comparative analysis for better evaluation

ACHIEVEMENTS

Executive Board Member, India Club at Georgia Tech, 2021

Awarded bronze medal for basketball in Bits Open Sports Meet, 2015

Awarded 'Most Outgoing Student of the Year', 2012

Secured All India 3rd rank a national level quizzing competition, 'Kaho What's My Idea' hosted by Derek'O'Brien, 2011