Sriram Madhivanan

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Education

Clemson University — Clemson, SC
MS in Computer Engineering — *Spring 2015 – Fall 2017*

Anna University — Chennai, TN
BE in Electrical and Electronics Engineering — *Fall 2008 – Spring 2012*

Experience

Senior Embedded Software Engineer — Oct 2017 – Present
Qualcomm Inc. — *Boulder, CO*

- Designed, developed, and maintained a multi-threaded python application that runs on zynqMP processor. This component is a part of the custom hardware system used to verify Qualcomm ASICs modem feature set. The application runs throughout the lifetime of the system and acts as an interface between the server and various embedded components. Some of the features include managing switches, interfaces, custom hardware components and monitoring health of the devices and report any abnormalities.
- Designed, developed, and maintained petalinux init scripts, and its common logging and alarm interface.
- Consistently acknowledged for quality output, with thorough off-target and on-target testing capabilities for the components I own.
- Contributed ideas to speed-up system bringup by offloading tasks from server to the zynqMP cores as well as presenting JSON data in a more user readable form which were well received by the team as well as customers.
- Contributed in hiring (conducting interviews) as well as mentoring interns and new hires.

Associate Consultant — Jul 2012 – Dec 2014
Infotrellis Inc. — *Chennai, TN*

- Performed end-to-end Extraction Transformation and Load (ETL) tasks from requirement analysis to system study, design, implementation, and documentation. Used SQL and shell scripts for the projects.

Intern — Jun 2011 – Aug 2011
Infotrellis Inc. — *Chennai, TN*

- Provided a report on search engine optimization possibilities for the company website.

Projects

Acceleration of Huffman Coding using MPI and CUDA | *C, MPI, CUDA*

- Implemented Huffman coding using CUDA and MPI to achieve scalable speedup for compression and decompression in a proprietary file format.
- Obtained maximum speedup of 13.5 and 15 with MPI and MPI-CUDA implementations respectively.

Kakuro solver | *Python*

- Implemented a solver for the kakuro puzzle in python using object oriented programming.
- The design lists all possible solutions. Solution is obtained by reducing the possible combinations based on the intersection information.

Data Driven 2D Game | *C++, SDL1.2*

- Created a data driven 2D game of fighter genre with option of pvp or pvc.
- Used singleton, factory, strategy, flyweight and observer patterns.

Acceleration of Kalman Filtering using OpenCL for FPGAs | *C, OpenCL*

- Developed a hardware solution to accelerate a 2D Kalman filter using OpenCL.
- Certain portions were successfully accelerated, but the overall design was slower than the CPU implementation.

Sound Device Driver | *C, Assembly*

- Designed a Linux kernel device driver for the sound blaster 16 card.

Technical Skills

Languages: Python, C/C++, MPI, CUDA, SQL, git