Kashyap Ravichandran

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EDUCATION

MS – Computer Engineering May 2021
North Carolina State University, Raleigh, USA **4.0/4.0**
Relevant Coursework: Embedded Systems Architecture and Optimization, Advanced Micro Architecture, Parallel Computer Architecture
BE - Electronics and Communication Engineering May 2019
SSN College of Engineering, Chennai, India **8.36/10.0**

TECHNICAL SKILLS

Software and Tools: IBM Watson, Cadence Allegro, Cadence Spectre, Matlab, Keil uVision, AutoCAD, Arduino, Raspberry Pi, git
Languages: C, C++, and Python **Skills**: Designing Embedded Linux systems, PCB Design, Building Embedded ARM systems, RTOS

INTERNSHIPS

Summer Research Fellowship May 2018 – September 2018
IIT Madras, Chennai, India

- "Take Note":
  - Designed and developed hardware and firmware for Take Note, a note-taking device for the visually impaired.
  - Created a software prototype for "Take Note" using python.
  - Facilitated in the mechanical chassis development for the device.
  - Presented the product and its accompanying software in front of 500 people at Pysangamam, a python conference conducted at IIT Madras.

Intern November 2017 – January 2018
IBM India, Bangalore, India

- Worked exclusively on IBM Watson (IBM's cloud services).
- Formulated a machine learning model to classify fake logos from real logos.
- Created documentation for 2 IBM Watson IoT Services by analyzing their functionality, identifying their usage and their use case scenarios.
- Inducted into IBM's developer champions group for work towards the betterment of the IBM developer Community.

Intern May 2017 – June 2017
Syrma Technology, Chennai, India

- Streamlined the company's PCB assembly line by designing systems that kept track of the number of boards assembled and controlled the flow of air into the assembly line during production.
- Reduced human errors arising from using frozen solder paste by 75% by devising a system based on Arduino Mega boards to thaw frozen paste.

TECHNICAL PROJECTS

Dynamic Instruction Scheduling November 2019
Microarchitecture – North Carolina State University

- Simulated the execution of instructions in an out of order superscalar processor with Reservation Stations and Re-order Buffers using a C++ program.
- Studied the effects of the size of the Reservation Stations and the bandwidth of the processor on the number of instructions executed per cycle.

Controlling an LED Using a Multitouch Touch Screen – RTOS November 2019
Embedded Systems Architecture – North Carolina State University

- Programmed an inter-communication mechanism to share hardware resources between multiple threads, such that a hard time budget is met with an increase in responsiveness and reduction in idle time.

Cache Simulator September 2019 – October 2019
Microarchitecture – North Carolina State University

- Analyzed the performance of a memory hierarchy simulator with L1 and L2 n-way set associative cache and L1 n-way set associative and a de-coupled sectored L2 cache.
- Observed the effect of cache size, block size and associativity on miss rate and average access time.

Assault Detection September 2018
Yet Another Hackathon!, Sri Venkateshwara College of Engineering, Chennai, India

- Ideated and implemented a system within 24 hours to detect physical assaults, falls and accidents using Raspberry Pi, gyroscope and accelerometer. Won people's choice award out of 25 teams that participated.

Publications

Bharath Raj, N., Subramanian, Anand., Ravichandran, Kashyap., Venkateshwaran, N. (2020). Exploring Techniques to Improve Activity Recognition using Human Pose Skeletons. *The IEEE Winter Conference on Applications of Computer Vision (WACV) Workshops*. Snowmass Village, Colorado: IEEE.