

Manjukumar Patil

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EDUCATION

The Ohio State University, College of Engineering

Columbus, United States

Masters in Computer Science and Engineering (GPA: 3.5/4.0)

Aug 2017 - May 2019

Visvesvaraya Technological University, R.V. College of Engineering

Bengaluru, India

Bachelor of Engineering in Computer Science and Engineering (GPA: 3.97/4.0)

Sept 2010 - May 2014

TECHNICAL SKILLS

Programming Skills: C++, C, Java, Python, ARM, MIPS

Web Technologies: JavaScript, HTML, PHP, CSS, Ajax, MySQL, Moodle

Operating Systems: Linux, Android, MS Windows

IDE: Visual Studio, Android Studio, Eclipse, RVDS, MATLAB, jQuery, CUDA, RStudio

EXPERIENCE

The Ohio State University

Columbus, United States

Graduate Research Assistant

Sept 2017 - present

- Developing an enhanced educational curriculum for school children where parabolic graph is explained by programming interface using face detection on drones. Face size increases as drone advances towards face forming the parabolic points
- Front end is developed using JavaScript, HTML, back end with PHP, MySQL and the middleware by DJI drivers
- Developed the educational portal, <https://ctme.ehe.osu.edu>, as a part of NSF project, to enhance the quality of learning in Algebra and Physics for high school children through interactive and visualized web interface

Samsung Electronics

Bengaluru, India

Senior Software Engineer

Mar 2016 – Aug 2017

- Designed and implemented DSP kernels on Samsung-Core processor for Gesture Recognition IP which resulted in a performance gain of 50% and a power boost of 30% in comparison with traditional CPU on S8 device
- Developed Face Detection IP using HOG Image Processing technique for feature extraction and AdaBoost Machine Learning for feature classification. Designed efficient 2D spatial cache access method for memory loop-up

Samsung Electronics

Bengaluru, India

Software Engineer

Jun 2014 – Mar 2016

- Developed over 10 ARM/NEON and intrinsic assembly solutions to achieve data-level parallelism along with multiple p-threads implementations to achieve thread-level parallelism for several vision applications such as; Face Detection with performance efficiency of 30%, Face Beautification of 70% and Gesture Recognition of 50%
- Maintained Agile technologies in the team by organizing sprint planning, stand-up meetings, and retrospective meetings

INTERSHIP

Samsung Electronics

Bengaluru, India

Research Intern

Jan 2014-Apr 2014

- Developed an Android application for improving the power efficiency of the smartphones by recognizing the deadlock systems and memory leaks in any android device. Application was developed in Android Studio using Java

PROJECTS

Autonomous UAV Drone System

Aug 2017

- Benchmarking the Face Detection IP on *DJI Spark Drone* running on ARM processor using tools such as Perf, RAPL, systrace and ftrace. Analyzing cache performance and CPU parameters to optimize the algorithm for maximizing cache utilization

Parallel Computing

Sept 2017

- Designed and developed Edge Detection algorithm using Sobel operator. Implemented and analyzed multi-threading across multiple parallelizing methods such as pthreads, openMP, CUDA and MPI for different amount of threads

Branch Prediction Championship

Sept 2017

- Implementing GSHARE branch predictor to accurately predict the outcome of the branch instructions. The predictor is able to achieve the accuracy of 97.2% with 8KB global shared branch history table

Lexical Analyzer and Parser

Oct 2013

- Designed and developed initial two stages of the compiler in which the C code is broken into tokens by the lexical analyzer. Then the parser tree is generated using these tokens

Airline Database Management System

Nov 2012

- Developed the application software which helps in the management of airline reservation and other aspects of booking, canceling, rescheduling etc. Implemented using HTML, PHP, CSS and MySQL