Diganth **Prakash**

Embedded systems · Deep Learning

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Summary: *Undergraduate studies in Electronics and Communication from BMS College of Engineering, Bangalore. My keen interest lies in embedded system and deep learning. I have worked on object recognition using squeezeDet and Mobilenet. I also have worked on several Micro-controllers such as Arduino and Raspberry Pi. I have represented my state in national level swimming competition, securing a silver and bronze medal.*

Education

BMSCE(BMS College of Engineering)   *Bangalore, India*

B.E in Electronics and Communication   *Aug 2014 - May 2018*

- Scored a CGPA of 7.35 (7th sem).

SKCH composite Pre - University College   *Bangalore, India*

PCME   *Aug 2012 - Apr 2014*

- Scored 74.33% in Higher Secondary.

SVM (Sudarshan Vidya Mandir)   *Bangalore, India*

10th Std   *June 2011 - Mar 2012*

- Scored 82.08% in Secondary.

Work Experience/Internships

Nuline Technologies   *Bangalore, India*

Auto Key Press   *Feb 2018 - May 2018*

- Testing the torque on the Micro-Servo.
- Minimizing the load on the Arduino by utilizing a DC - DC step up power supply module (XL 6009).
- Designing the entire model on a CAD software (Autodesk Fusion 360).
- Writing the test codes for Arduino to control the angle of the servo.

Projects

PI V.I.S.I.O.N   *BMSCE*

Deep Learning, Google Assistant, Autodesk Fusion 360   *April 2018*

- Object Detection on Raspberry Pi.
- Triangle similarity distance measurements of the objects.
- Alert the user based on the distance of the object.
- Google Assistant integration with added custom commands.
- 3D printed box for the system, mountable on any stick.
- More details about the project can be found here: https://github.com/diganthp/pi-vision

V.I.S.I.O.N   *BMSCE*

Deep Learning, Google Cloud Platform, Kaggle/Imagenet   *November 2017*

- Familiarization with the concepts of machine learning.
- Acquiring Dataset from kaggle and Imagenet.
- Familiarization with creating a virtual machine in Google Cloud Platform.
- Training the model on the GCP(Google Cloud Platform) for the acquired dataset.

ECE Placements App   *Bangalore*

Android Studio, XML, Google Firebase   *July 2017*

- Realtime uploading and retrieving of data.
- Push Notification system from firebase.
- More details about the project can be found here: https://github.com/diganthp/ECE-Placements-App

Wireless Gesture Controlled Bot

BMSCE

Arduino Uno, Arduino Due, MPU 6050, Motor driver, Bluetooth Module

April 2017

- Familiarization with the concepts of machine learning.
- Acquiring Dataset from kaggle and Imagenet.
- Familiarization with creating a virtual machine in Google Cloud Platform.
- Training the model on the GCP(Google Cloud Platform) for the acquired dataset.
- More details about the project can be found here: https://github.com/diganthp/wireless-gesture-controlled-bot

Decoding of Aruco Markers from live video feed using Raspberry Pi and Webcam

BMSCE

Python, OpenCV

December 2016

- Developed an algorithm in Python to effeciently detect aruco markers from the live video stream.
- Hamming code was used to decode the ID of the marker.
- More details about the project can be found here: https://github.com/diganthp/Image-processing-of-aruco-markers-using-raspberry-pi

Two Wheel Balance Bot using MPU6050 and 8051 Micro-controller

BMSCE

Keil v5, Control Systems

March 2016

- Designed a two wheel balance bot using the inverted pendulum concept.
- Used the concept PID control system.
- Project incomplete due to limited features on 8051, ongoing with arduino.

Home Automation without using Microcontroller

BMSCE

Opamp LM741, Relays

December 2015

- Designed a relay logic circuit to mimick the Micro-controller.
- Opamps to amplify the sensor voltages.
- Sensors used: Temperature sensor, LDR.
- More details about the project can be found here: https://github.com/diganthp/Home-automation-without-using-microcontroller

Technical Skills

Computer Science: C, C++, Java, Python, Android Studio, OpenCV | **Basics:** MATLAB, HTML, CSS, Latex

Electronics: Keil v5, Cadence Virtuoso, Fritzing, Verilog HDL (Xilinx Vivado), LTSpice, Proteus, Control Systems, Computer Communication Networks, Digital Signal Processing, Analog Microelectronics, Microcontrollers, Computer Architecture, VLSI

Microcontrollers/Boards used: 8051, Atmega series, Arduino Uno, Raspberry Pi, Arduino Due (ARM Cortex M3), Arduino Mega R3

Others: Adobe Photoshop, Adobe Premiere Pro, Adobe After Effects, Adobe Illustrator, Apple Final Cut Pro X, CorelDraw

Extracurricular Activity

UTSAV

BMSCE, Bangalore

Senior Coordinator for Hospitality

2017

- Gained expertise in Leadership, especially about the hospitality in a event.

Utkraanti

BMSCE, Bangalore

Student Coordinator

2017

- Successfully Coordinated the Six Sense Robotics Workshop.
- Gained experience in team work.

Visvesvaraya Technological University(VTU)

Global Academy of Technology, Bangalore

Athlete

2016

- State level aquatic championship.
- Secured a Bronze medal in the relay.

Phase Shift

BMSCE, Bangalore

Junior Coordinator for Prize committee

2016

- Gained expertise in volunteer work & in Leadership.
- New experience in designing certificates in Adobe Photoshop.
- Gained Knowledge in Auto generation of e-Certificates for the participants using Adobe Photoshop.

UTSAV

BMSCE, Bangalore

Volunteer

2015

- Gained expertise in volunteer work.
- A better understanding of team work and Co-ordination.

Swimming Federation of India(SFI) *Jain University, Bangalore*

Aᴛʜʟᴇᴛᴇ *2006*

- National level Aquatic Championship.
- Secured a silver and a Bronze medal in the relay.

Training

2017   **Industrial Visit**, Attended lecture series on IoT and also a visit to Nokia labs which provided insight into the work culture in industries *Nokia, Bangalore*

2015   **AVR SIG**, Attended workshop on AVR Programming *BMSCE, Bangalore*

2014   **C and C++**, Pursued the course on C and C++ and completed it with distinction *NIIT, Bangalore*

Personal Skills

Leader/Team Player, Have represented Karnataka in the national aquatic championship 10 times, have secured 2 national medals in relay (Team event), Senior Coordinator for hospitality in UTSAV 2017, Junior Coordinator for hospitality in Phase Shift 2016.

Socially active, I have my own youtube channel which has been growing fast and attracting audiences where I post technical content

Youtube Channel: Diganth Prakash

Adaptive and Flexible, Always ready for change and find myself capable of adapting to the change very quickly

Strong Communication skills, Able to make friends quickly and also present my thoughts and opinions in the most understanding way possible

Hardworking and Determined, Able to apply my skills and knowledge and achieve the set goals with perfection and excellence within the given time

References

Dr. Geetishree Mishra, Assistant Professor, Department of Electronics and Communication, BMSCE
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Lalitha S, Assistant Professor, Department of Electronics and Communication, BMSCE
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Declaration

I hereby declare that all the information furnished above are true and authentic to the best of my knowledge *June 10th, 2018*