RAGHU PRAKASH REDDY
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OBJECTIVE:

Highly energetic and motivated individual with a strong academic record. A thriving analyst with experience aiming to secure a responsible career opportunity to fully utilize my skillset to solve the real-world industry problems. My endeavor and dedication to the job will help achieve the company's goals and objectives.

EDUCATION:

B.E. in Telecommunication Engineering CGPA: **9.06/10.0** **Sep 2014 – Aug 2018**
BMS College of Engineering, Bangalore, Karnataka, India

Board XII - (PCME) - Electronics - 95.83% **Mar 2014**
Sri Bhagawan Mahaveer Jain College, Bangalore, Karnataka, India

Board X - 96.16% **Apr 2012**
Sree Saraswathi Vidya Mandira , Bangalore, Karnataka, India

TECHNICAL SKILLS:

- **Data Analytical Tools/ Techniques** : ML and CV Algorithms, Open CV, Pytorch, Model Development, Camera Calibration Techniques
- **Programming Languages:** C, C++, CUDA, SQL, Python, NesC, VHDL, Verilog, HTML, Modelsim, Power BI, Tableau.
- **Tools :** Matlab, Simulink, Ansys Design suite, Arduino IDE, Keil, Xilinx ISE, NI Labview, NI Multisim, Cisco Packet Tracer Flow, Qualnet.
- **Automation Tools :** Blueprism, Automation Anywhere , UI Path, Excel VBA.
- **Operation Systems:** Windows, UNIX, Mac OS

CERTIFICATIONS:

- EY Robotic Process Automation Course **- Silver Level Completion**
- Cisco Course Academy Certification **- CCNA - Routing and Switching** concepts
- Fourier Transforms **- Signals and Systems -** Certification Course **- QEEE program by IIT Madras**
- **NI LabVIEW and Multisim** Simulation Software **-** Coursework from **National Instruments India**

PROFESSIONAL EXPERIENCE:

Ernst and Young , LLP. Bangalore, Karnataka, India
Analyst - Advisory - Performance Improvement **June 2018 – March 2020**
Computer Vision | Deep Learning and RPA:

- Solid foundation in **machine learning** and **deep learning networks**.
- Estimation of model performance, reporting and complete understanding of more than one open-source **CV framework**.
- To deliver the optimized solution by developing and utilizing **core parallel algorithms.**
- **Development of RPA solutions (software robots)** based on new requirements individually and/or in teams using **Blue prism or UI path**.
- Automated multiple business processes using **Email architecture** and **Scheduling** methodologies on the **Azure platform** with an overall **FTE benefit of 0.3 FTE.** Rendering support in testing the process developed by other developers by fixing the issues and develop **test** scenarios for **UAT testing**,

Projects Handled:

Automatic License/ Number Plate Recognition with OCR:

- ANPR system was developed for the **Truck check point / security wings at Unilever distribution factories.**
- Dedicated objector detectors such as **Faster R- CNN** and **YOLO** were used to **localize the license plates** in images. RNNs and LSTMs were used in **text extraction - (OCR)** procedures from number plates.

Deep Learning – based Semantic Segmentation in Simulation and Real World for Autonomous Vehicles :

- Multiple cameras were used to perform comparative studies between original and segmented images at the same time. **Color filtering** procedures were incorporated for object separation and class label assignment.
- **Total of 4 distinct classes (White/Yellow/Red/Null)** were developed for optimization. Medical image segmentation based **CNN architecture – UNET** was consider by minimizing the convolutional layers. Stochastic gradient decent as optimizer. Validation Pixed accuracy of nearly **97%** was achieved on simulation.

Real Time 3D Reconstruction from the Scene:

- This project was aimed at achieving the **3D reconstruction in real time** by using **multiple 2D images** from the scene at **AF labs.**
- Camera parameters were tuned and post calibration tuning parameters were used to determine the **epipolar geometry**. Materials used : **Raspberry PI Model 3, PC , Logitech Cameras 720p @ 30 FPS.**

Distance measurement system for autonomous vehicles using stereo camera setup.

- With the aim to develop an inter-vehicle distance measurement tool for Self- driving systems, Stereo - Vision Technique was used to extract the **depth information** of the scene with the help of **two cameras** vertically displaced from one another.
- Web cameras with **CMOS image sensors** were used for the setup. Average of frames per second through all the experiments was **19 frames/sec** for real time treatments.

In House Speedy Object detection based on SHAPE

- An in-house object detection system for visually impaired personnel was developed to act independently. The output of the system was be directed to Bluetooth devices in the form of sound to assist them.
- The model uses **dynamic clustering and scaling** of training and testing images. **Lowe's Algorithm** with **mean clustering** based on size enhanced the overall performance of the system.

Raybaby Inc Bangalore, Karnataka, India
Hardware Intern **March 2018 - May 2018**

- Testing /Verification of **World's First - No contact** sleep and breathing **AI-powered** baby monitor.
- Assisted engineers in the **development** and **prototype verification** stage with **Radiation Pattern Estimation, Firmware Updating**, **EMC testing** and developing **assembly schemes** of the monitor.

Stellapps Technologies Pvt Ltd Bangalore, Karnataka, India
Embedded Systems Intern **July-August 2017**

- Embedded System Design and Testing of **IoT products** that employ a dedicated router - **SmartMOO.**
- Design of **Activity Meter**: Cloud-based, real-time animal activity monitor for was developed as **smart solution for cattle farming**. Cattle activity was monitored for every **14** seconds. **Tiny OS programming** was employed for configuring the **Wireless Sensor Network (WSN). SIM 900 GPS Module** was interfaced with **ATMEGA256RFR2** microcontroller to implement **Position Estimation** and **Range calibration** functions to locate the cattle on grazing lands.

Bharat Electronics Limited (BEL) Bangalore, Karnataka, India
Project Intern **July 2016**

- **Missile Systems and Military Radars** – Study of **Power Amplifier** used in **Tropospheric Communication** for Defense Applications.

Bharat Sanchar Nigam Limited (BSNL) Mysore, Karnataka, India
Project Intern **June 2016**

- Courses focused **- Wireless communication** and **Basis of IP networking**. Internship included hands on **practical labs** and theory sessions.

ACADEMIC PROJECTS:

Can Infrastructure Development For Automotive Applications **May 2018**

- Development of **cost-effective** prototype to extract **CAN** data from automobiles and process them for **Automotive Embedded System Applications**. A **Customized board** that represents a **single node** in CAN network was developed, where the Microcontroller section of **CAN node** was implemented using **ATmega328 controller. MCP2515 and MCP2551** components were used as **CAN Controller and Receivers.** The **Bootloader** was developed using **Mini core package with Arduino support. The transmitter** was programmed to send **64 bit** messages with a **29**-bit identifier**.** Data was received with a baud rate of **115200. EasyEDA** tool was used for PCB Development.

Drive Cycle Analysis For Indian Roads **December 2017**

- The primary focus was on the **Construction of Dedicated Drive Cycle** and **Estimation Traffic Patterns** of a region. **Data acquisition** from automobiles was carried using the **FreematicsONE module** and **HypeTerminal** software was used for data monitoring. **Segmented studies** on various parameters like **Engine RPM, Speed of the Car, Throttle position, Engine load, Gear shifts** were carried out. Data Processing was done with a dedicated code on **MATLAB** for developing a drive cycle**.**

Design of Low Pass FIR Filter for ECG Denoising **June 2017**

- To reduce the **high-frequency noise** and **powerline interference** in ECG signals a **low pass FIR digital filter** was designed using **VHDL** Support. The model was simulated on **Modelsim** and results were verified with **MATLAB** reports.

Electronic Voting Machine using WIPRO UTLP Kit. **May 2016**

- Implemented on **WIPRO's Mission 10X UTLP** (Unified Technology Learning Platform) Board.
- Code was developed on **Embedded C.**

Implementation of 8 Bit Microcontroller using VHDL **April 2016**

- The **8-bit** microcontroller was designed and implemented on **FPGA D0 NANO board**.

Development of Smart Parking System using VHDL **March 2016**

- The **parking system** was integrated with **password-based** access to the parking site. Simulated on **Modalism software** and synthesized on the **Xilinx Spartan 6 FPGA kit.**

PUBLICATIONS:

- CAN Infrastructure Development For Automotive Applications - **IEEE - Second International Conference on Green Computing and Internet of Things (ICGCIoT), Bangalore, India 2018** **August 2018**
- Techniques Driving Energy Efficiency Contributing to Environment Sustainability Goals - **RSRI Conference on Recent Trends in Science and Engineering, Goa, India 2018.** **June 2018**

ACADEMIC HONORS

- Acclaimed with EY **Silver and Bronze Badges** for - **RPA - Software Robot Development.**
- BMSCE Telecommunications Engineering Department - **Secured IV Rank in BE - 9.06 CGPA**
- PHASE SHIFT - Annual Tech Symposium -**Secured II Place in Project Race** based on the **Internet of Things (IoT).**
- DSK Supinfocom International Campus - CREO 2013 Bengaluru - **Art and Design Competition - Awarded as I winner.**
- Awarded the Certificate of Appreciation for securing **95.83%** in **Board XII Examination**.
- Awarded the Certificate of Excellence for securing **96.16%** in the **Board X Examination.**
- 13th International level Science Talent Examination 2011-2012 secured **II Rank in District Level**.
- International Chintana Mathematics Examination 2011-2012 secured **I Rank in National Level.**

CO-CURRICULAR & EXTRA-CURRICULAR ACTIVITIES

- Completed - **Safety Induction Course** at "ETSC Bangalore - Unilever"
- Involved in various **CSR** activities conducted by **Ernst and Young, LLP**.
- **Principal Digital Content Creator** at **#THE1728STUDIO** on Social Media.
- Organized NSS service "**Votathon**" Basavanagudi during Aug 2015 to create awareness about voting among student groups.
- Actively involved in the **Rotract club** - "**iTEACH**" event which involves teaching and beneficiary programs to government school students.
