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OBJECTIVE
To acquire a full-time employee position in the field of **Embedded Systems** starting August 2016

EDUCATION
MS, Computer Science and Engineering (GPA: 3.47/4)   **September 2014 - June 2016**
Santa Clara University, Santa Clara, CA
BE, Electronics Engineering (GPA: 3.3/4)   **August 2010 – June 2014**
Mumbai University, Mumbai, India
Related Coursework**:** *Computer Architecture, Operating Systems, Computer Networks, Secure Coding in C and C++, Algorithms, Embedded Systems and RTOS*

WORK EXPERIENCE
Embedded Software Intern, Automotive Department, NVIDIA, Santa Clara   **June 2015-September 2015**
- Worked on Board support package of Drive CX boards which uses the TEGRA processor
- Worked on writing Device Drivers and Kernel Modules on the Linux kernel for the board
- Worked on the device driver of adaptive registers of Tegra SoC (ARM Architecture)

PUBLICATION
"Data Acquisition System and Telemetry System for Unmanned Aerial Vehicles for Sae Aero Design series"
International Journal of Electronics and Communication Engineering & Technology (IJECET), Volume 4, Issue 5, 2013, pgs. 90 - 100, ISSN Online: 0976 –6472

SKILLS
Programming Languages: C, C++, Embedded C, Python, Shell Script (bash)
Protocols: TCP, UDP, Ethernet, I2C, UART, SPI
Target Boards: Raspberry-pi, Arduino, NVIDIA Drive-CX, Marvell's EZ-Connect MW 302, ESP8266
Programming skills: OpenCV library using C++, Socket Programming using Socket API, GDB, Git
Architectures: x86, ARM, MIPS

ACADEMIC PROJECTS
Smart Solar Panel: Internet of things project
- Used ESP8266 to interface two I2C sensors (temperature and luminosity) and send the data to cloud and web server
- Monitored power and efficiency of a solar panel provided by the sensor data using the arduino IDE
- Provided a control system of a water sprayer depending on threshold temperature using HTTP protocol
- Github link: https://github.com/rkamath13/smart_solarpanel_esp8266

I2C sensor Interfacing with Laptop's SMbus
- Interfaced an I2C temperature sensor (MCP9808) to the VGA port for I2C access
- Wrote a linux driver and a library using i2c-dev module from lm-sensors package
- Github link: https://github.com/rkamath13/i2c-sensor-laptop-access

Environmental Monitoring using Marvell's EZ-connect MW 302
- Interfaced temperature, CO2, Light, pressure (I2C, SPI, UART and GPIO) environmental sensors to MW 302 board (ARM processor)
- Data was sent using the Wi-Fi chip to AWS-IoT instance using the AWS-IoT SDK
- Operating system used was FreeRTOS and lwip stack was used for wireless communication

Data acquisition and telemetry of an RC plane
- Worked to build a robust Telemetry System for the Plane, using Parallax Altimeter MS5607, u-blox LEA-6H GPS module for data acquisition and Digi XBee-Pro 900 for wireless communication from the plane to the ground (board used : **Arduino Uno**)
- Designed a control system to trigger an interrupt for a payload to fall from the plane to the target using GPS co-ordinates
- Spearheaded a team of 26 students for SAE international Aero design competition in Fort Worth, TX, ranked 7th Worldwide

Theft detection and Collision avoidance System of an Automobile
- Interfaced the 8051 Microcontroller with GPS, GSM and PIR sensor for theft detection
- Interfaced the Arduino with ultrasonic distance sensor for collision avoidance

Raspberry Pi projects
- Interfaced different sensors on various GPIO pins and used twitter API to tweet the sensor data
- Implemented NFS protocol for file transfer, Created a Web server and hosted a lightweight website using port forwarding
- Operating systems used: Raspbian, Openelec, berryboot, Openwrt, DD-WRT