Hardik Garg

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SUMMARY

ECE graduate student looking for full-time opportunities.
2 years of work experience as a Software Engineer on a medical embedded device at TCS R&D department.
Represented India in the world finals of Microsoft Imagine Cup 2013 for 'Electronics Pill Box'.

EDUCATION

UNIVERSITY OF ILLINOIS AT CHICAGO

MS in Electrical and Computer Engineering
Expected May 2018 | Chicago, IL
GPA: 3.3/4

MAHARSHI DAYANAND UNIVERSITY

BS in Electronics and Communication Engineering
Grad. May 2014| Rohtak, India
GPA: 3.2/4

LINKS

Github:// **hardiktechnoplanet**
LinkedIn:// **hardikgarg19**

COURSEWORK

GRADUATE

Computer Algorithm I
Advance Computer Architecture
Intro to Machine Learning
Image Analysis and Computer Vision II
Parallel Processing
Advance Microarchitecture

SKILLS

PROGRAMMING

C • C++ • Python • Matlab
OpenCV • OpenMP• BASH

OPERATING SYSTEM

Linux • Windows • ROS

IDE'S

Code Composer Studio • Arduino • Keil • Mplab • Visual Studio

HARDWARE

TI MSP 430 • ARM Cortex M-3 • Arduino • Raspberry Pi • Zigbee

EKTA FLOW | Computer Vision Software Engineer Intern

Jan 2018 – Present | Chicago, IL
Developing an application to help transform and manipulate point cloud data.

- The application takes the original STEP file and the point cloud file of the modeled product as input.
- Evaluates the deviations in the 2 point cloud files. Deviated points are marked on the CAD file. Technologies used: C++, Visual Studio 2017, PCL library.

VISION 13 | UAV Software Engineer Intern

Jun 2017 – Aug 2017 | Aurora, IL
Developed Local Positioning System for unmanned vehicles.

- Programmed the flight controller to get the navigation data from the DW1000 modules when GPS is out of range. Developed SPI drivers to communicate DW1000 modules with the controller.
- Designed trilateration algorithm to get the tag location. The navigation data is sent to the Qground Control GUI. Technologies Used: Pixhawk, ARM Cortex-M3, C++, MAVLink Protocol, Ardusub, pilot, and rover software.

TATA CONSULTANCY SERVICES | Embedded Software Engineer

Dec 2014 – Jun 2016 | Bangalore, India
Designed and developed software for a medical embedded device. The device removes plaque from the arteries.

- Developed SPI and I2C drivers to communicate with TFT display controller, EEPROM, and TILT sensor.
- Designed ADC to sample the input pressure, and DAC to provide the input to proportional valve. Developed a troubleshooting firmware.
- Programmed TI low-power BLE to transfer the device screen data onto another screen. Performed Unit testing. Technologies used: TI MSP430F5659 microcontroller, Code composer studio software, C, and JTAG debugger.

RESEARCH

UNIVERSITY OF ILLINOIS AT CHICAGO | Independent Study

Oct 2016 – May 2017 | Chicago, IL
Developed a system to get the methane gas concentration in the atmosphere. These values are sent to the server for regular monitoring. Technologies used: IOT, ARM Cortex M3, Sensor studio, MQTT, BLE, and Gas sensor.

PROJECTS

Vehicle Detection: Vehicles are detected in the image and video using HOG and SVM. Technologies Used: HOG, SVM, Python, OpenCV, and Scikit-learn.
Earning Potential Predictor: Earning potential is predicted using the adult dataset. Technologies Used: Python, AWS, KNN, SVM, Decision Trees, and AdaBoost.
Feature Detection: Features are detected using Harris detector and adaptive non-maximal suppression.Features are compared using sum of squared differences.
Electronics Pill Box: Medication reminder device synchronized with a phone app.Technologies Used: Microcontroller, RTC, SMD LED, LCD 16x2, UART, and BLE.

AWARDS

2013	International	Represented India in world finals of Microsoft Imagine Cup 2013
2013	International	Won the Dell Social Innovation Challenge 2013 worldwide
2014	International	Intel Make it Wearable Challenge Finalist