Ganesh H
Curriculum Vitae

TC 23/692, Valiyasala,
Chalai.P.O,Trivandrum
Kerala, India - 695036
☎ +91-9446242358
✉ ganeshredcobra@gmail.com

Education

2005–2009	**B.Tech, Applied Electronics & Instrumentation Engineering**, *University of Kerala*.
College:	P.A.Aziz College of Engineering & Technology
gpa:	6.04/10.0
2003–2005	**Higher Secondary**, *Biology+Maths Stream*.
School:	Govt Model Boys H S S Chalai, Trivandrum, Kerala
gpa:	7.5/10.0
2002–2003	**Secondary School**, *Science+Maths+English Stream*.
School:	Govt Model Boys H S S Chalai, Trivandrum, Kerala
gpa:	8.25/10.0

Work Experience

February 2010–Present	**Software Engineer**, *Society for Promotion of Alternative Computing and Employment*. Developed and implemented many applications using various free software tools.Conducted research on using free software tools for scientific computing,Embedded Linux & System Administration. http://space-kerala.org
February 2010 – present	**Freelance Hacker**. A Freelance programmer and consultant on Free and Open Source Software based technologies(GNU/Linux,Python,Embedded Linux etc).
July 2009 – January 2010	**Lecturer cum Support Engineer**, *IRS Informatics India pvt Ltd*. Worked as Lecturer cum Support Engineer in Department of Instrumentation and Automation of IRS Informatics India pvt Ltd, Thrissur from July 2009 to January 2010,in their projects for C-DIT and KELTRON.Works include conduct theory aand practical classes for the course Diploma in Computerised Instrumentation.

Technical Skills

Programming Languages	C,Assembly,Embedded C,Python,Matlab,HTML/CSS,Bash Scripting,Processing.
Operating Systems	Proficient in Debian,Ubuntu/Kubuntu Linux and other Linux variants, Windows 9x, XP, Vista, Virtualization of Windows & Linux guests using Sun VirtualBox.Have good experience in GNU/Linux system administration and Shell scripting(BASH).
Authoring & Graphics	LATEX ,LATEXBeamer ,Open Office , GIMP.
Microcontroller's & Dev Boards	PIC 16F877A,TI MSP430,STM32F4Discovery,Mini2440(Arm 9),AtmelAVR.
IDE's Used	Eclipse,Code Composer Studio,MPLab,Arduino.
Development Tools used	GNU Tools,Git,Vim.
Protocols	I2C, SPI, RS232,CAN.
Circuit/PCB Design	Eagle PCB,Kicad.

PLC's Used	Siemens -S7300(Simatic Manager),Siemens -S7200(Step7 Microwin),AB Micrologix 1000(RSLogix 500).
HMI	Siemens TP177B(Touch Panel).

Project Works

Academic Projects

Mini Project Home Security System	It is having various sensors incorporated in it for the detection of intruders and some sensors to sense some natural mishaps like fire etc. It is having a temperature sensor(LM 35), a smoke sensor and a motion detector(PIR Sensor). A receiver is there to show the signal if anyone of the sensor is active it can be taken to a distant place according to the power of the transmitter and receiver(TWS & RWS 434).
Main Project Image Fusion/Mosaicing	Many problems require finding the coordinate transformation between two images of the same scene or object. One of them is Image Mosaicing/ Image warping. It is important to have a precise description of the coordinate transformation between a pair of images. Image mosaics are collection of overlapping images together with coordinate transformations that relate the different image coordinate systems. By applying the appropriate transformations via a warping operation and merging the overlapping regions of a warped image, it is possible to construct a single image covering the entire visible area of the scene. This merged single image is the motivation for the term "mosaic". The project is implemented in MATLAB.

Freelance Electronics/Robotics Projects

Light Controlled Switch - can be used to switch ON an incandescent bulb (or any appliance) automatically during the evening time i.e., when the sun light fades. The circuit consisted of a 555 Timer (used as Comparator) and LDR (Light Sensor).

Water Tank Level Indicating and Controlling System using LDR - had two special features that other level controlling systems in the market lacked – low cost implementation and elimination of all kind of immersions into the water. The op-amp IC LM324 and a LDR were used to realize the circuit.

Arduino Voltmeter - Arduino board uses ATmega series of Microcontrollers of Atmel AVR Family. The range of the voltmeter will be between 0 and 10 volts DC – ideal for testing batteries and cells before they head to the garbage bin.

Light Chasing Robot – A simple robot that follows the light (in a dark room). It used LDR as the light sensor.

Line Following Robot – A highly useful robot that could follow the line drawn on a surface. An IR LED was the sensor used.

PC Controlled Robot – A robot that could be navigated through a particular path using a computer. It worked by processing the data received from a computer's serial port with microcontroller (Arduino).

Obstacle Avoiding Robot – This robot could take a deviation in its path whenever it detected any obstacle that blocked its path. IR LED was used to detect the obstacle.

Sound Operated Robot – A robot that responds to the sound (eg: a clap). It is programmed to deviate its path when it detects a sound signal. The sensor used wasa normal microphone.

Email Controlled Home Appliances-Home Appliances can be controlled using email.The project uses Arduino board and a python script which helps to fetch mail and reply.

Software Projects

Customisation of Python based software for conducting IT examination for IT@SCHOOL.

Various scripts (Python& shell) for System Administration.

Linux OS Customization (Remastersys)

Hacking Microsoft Kinect using Processing and libfreenect libraries.

Trainings & Workshops Undergone

Attended training by SIEMENS on Simatic S7-300. The course included S7-300 series PLC's programming, communication, connections, interfacing etc. Also a touch screen HMI panel – TP177B.

Attended a workshop on Microcontroller based Robotics (level III) conducted by LI2 Innovations, Bangalore and Govt: Engineering College, Thrissur.(Arduino)

Attended Robotics workshops conducted by IEEE.

Achievements & Activities

Active member of the FSUG (Free Software Users Group) TVPM.

Program management team member of International Conference on SCIPY (Scientific Python).

Participated in International Conference on Sagemath held at IIT-Bombay.

Participated in Open Solaris workshop held at College of Engineering Trivandrum.

Interests & Hobbies.

An avid reader on technology, fiction and non-fiction books and websites.

Making Hobby circuits.

Trouble shooting problems in computers & Ubuntu Linux.

Scripting using Python nad Bash.

Blog & Code.

https://github.com/ganeshredcobra

http://importgeek.wordpress.com/