K O W S H I C K B

Male, Indian, 21 years
44/2, Bajanai Koil St,
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PERSONAL DETAILS

- Father's Name : B. Gangadhara Rao
- Date of Birth : 4th September, 1991
- Languages Known : English, Tamil, Telugu

EDUCATION

B.Tech **Electrical and Electronics Engineering** **CGPA : 7.94**

Semester	I Nov '10	II May '11	III Nov '11	IV May '12	V Nov '12	VI May '13
GPA	8.00	8.50	7.62	7.42	7.65	8.52

Class XII (TN State Board)	2009	Sri Ahobilla Math Oriental Higher Secondary Higher Secondary School, Chennai	**91.5 %**
Class X (CBSE)	2007	Jawahar Vidyalaya Senior Secondary School Chennai	**93.8%**

ACADEMIC ACHIEVEMENTS AND CO-CURRICULAR ACTIVITIES

- **National Winner, Tom Engibous Award, Texas Instruments India Analog Design contest** for implementing an effective "Solar Power based Intelligent Battery Charging System with Existing Home Inverter" **among 350 teams from 102 colleges** during April 2013.
- **IEEE paper** on "Ethernet based Industry Automation using FPGA", **accepted for publication at International conference AFRICON-13** to be held at Mauritius.
- **Winner** of autonomous robotics competition at **Pragyan**, '10 and '11 - the International Techno-Management festival organized by NIT, Trichy among 30 teams from various colleges.
- Organized and conducted the following workshops during 2011 – 2013:
  - A two day workshop on digital electronics and embedded systems for 100 participants.
  - A six day workshop on **MSP430 microcontrollers,** attended by 200 NITT students.
  - A two day workshop on **FPGA Based System Design** during **Currents'13** – National level technical symposium of Dept. of EEE, NIT, Trichy for 60 students from various colleges.

PROJECT WORK/ TRAINING

- **FPGA based Micro-Grid Controller employing Space-Vector Modulation Algorithms**
  Under Dr.S.Moorthi and Dr.M.P.Selvan, Assistant Professors, NIT, Trichy (Feb 2013 – present)
  Project proposed and sanctioned by **Power Grid Corporation of India Limited (PGCL)**
  - Designed and implemented efficient Space-Vector Modulation (SVM) algorithms on FPGA to generate Sinusoidal Pulse Width Modulation (SPWM) signals using VHSIC Hardware Description Language (VHDL).
  - A micro-grid controller was developed to operate single-phase and three-phase inverters in a grid. The inverters are connected to the controller via Ethernet communication.

- **Internship at Indigo Quotient Labs, Bangalore**
  Under Mr. Adarsha Sreeramareddy (May 2012 - July 2012)
  Developed the following TI MSP430 based **automation systems** which proved to be an effective solution for energy conservation and centralized control and monitoring of appliances:
  - **Energy monitoring device:** Developed an embedded system which continuously measures and logs the energy consumed by any appliance to which the device is attached.
  - **Intelligent lighting systems:** Automatically control lighting appliances based on human activity using Passive Infrared (PIR) sensors and light sensors.
  - **Infrared code receiver and transmitter:** Developed a product which can easily establish a centralized control over existing home appliances that uses Infrared (IR) signals.
- **Solar Power based Intelligent Battery Charging System compatible with Home Inverter**
  Under Dr.G.Saravano Ilango, Assistant Professor, NIT, Trichy (May 2012 - Apr 2013)
  - Solar charger involving **Maximum Power Point Tracking** (MPPT - Perturb and Observe Algorithm): Maximizes the solar power extraction from the PV panels.
  - **Power Flow Management System** which manages the power flow between solar panels, the load and inverter battery to maximize utilization of solar power being generated
  - **Battery Monitoring System** in which an effective coulomb counting algorithm was implemented using micro-controller to measure the **State of Charge (SoC)** of the battery.
- **Embedded Technology Projects:**
  Headed a team of 20 under Spider Club, NIT, Trichy (May 2012 - Present)
  - **RFID** smart cane that can help the blind to identify objects embedded with RFID tags.
  - **Human action copying mechanical arm:** Kinect based Human action copying arm developed with MSP430 as the controlling unit; arm developed with a motive to replace human presence and reduce the risk of handling high voltage cables and harmful chemicals.
- **Ethernet based Home Automation using embedded systems:** (Dec 2011 – Feb 2012)
  Presented in Pragyan project exhibits under Dr.S.Moorthi, Assistant Professor, NIT, Trichy
  Developed an Embedded System to control and monitor appliances in house Ethernet communication enabling user to control any appliance from within the LAN.

SKILL SET

- Languages : C, C++, Verilog HDL, VHDL, Embedded C.
- Packages : MATLAB, Code Composer Studio, ModelSim, Altium Designer

EXTRA-CURRICULAR ACTIVITIES

Positions of Responsibility:

- **General Secretary**, Student Council Member of the institute during the year '11-'12 nominated by over 200 students of NIT Trichy; Instrumental in establishing groups in the campus to help juniors with academics and in establishing a Meenakshi Bhavan restaurant for 4000 students.
- **Head** of **SPIDER**, Electronics Research & Development club of NIT, Trichy which involves mentoring and guiding a team of 20 towards developing many embedded technologies.
- Introduced the concept of **'Tech Talks'** in the campus, a short lecture series to all students on various components and techniques used in the club's projects.

Sports and cultural activities:

- Participated in NSS (National Service Scheme) Camp to spread the importance of plantation.
- Kho-Kho school team player: Participated in various inter-school competitions during 2006.