SHREYAS SHYAMSUNDER

ACADEMIC ACHIEVEMENTS

Ongoing	Mtech(Electronic Systems)	IIT Bombay	
2010	B. Tech (Electronics and Instrumentation)	VIT, Vellore	8.9/10
2006	ISC	Shrimati Sulochanadevi Singhania High school and Junior college	90.8%
2004	ICSE	Shrimati Sulochanadevi Singhania High school and Junior college	92.3%

SKILL

Programming Languages: **SDL:** C, C++ **HDL:** Verilog

Software's:

- MATLAB, LABVIEW
- **VLSI Design Tools:** Xilinx, Quartus II 8.0, Tanner Spice (Basic)
- Code Vision AVR, Code Warrior IDE, Keil microvision
- **Circuit simulation**: P-Spice, Orcad, LT Spice
- Keen interest and passion in acquiring knowledge. Proven design expertise in the field of digital and analog electronics.

Microcontroller Architectures: ARM, Freescale, and ATMEL AVR

Area of Interest

Analog and Digital Electronics, Microelectronics, Embedded System Design, Biomedical Instrumentation

INDUSTRIAL EXPERIENCE

GE Healthcare(Bangalore)	• Worked as an intern for ten months in GE healthcare Bangalore for the Maternal and Fetal care Department, which formed my final semester project(B tech). This venture was part of the curriculum, which provides an opportunity for students to get early hands on experience.

KEY PROJECTS

Driver Board Design for LED based LCD screens in fetal monitors	• This project was done for the maternal and infant care team in GE Healthcare Bangalore (JFWTC). • Main aim of this project was to achieve cost reduction by modifying existing product (Fetal monitor). • Project required changing existing 5.7" LCD screen with CFL backlight (old technology) to the much cheaper LCD screen with LED backlight. It required design of a new LED backlight driver board PWA. • Challenge was to implement multiple LCD screens with the same backlight board. This was proposed as a solution to obsolescence issues. This was done by implementing a unique design using multiplexers (SPDT switches). • Scope of this project also involved FPGA programming to drive the LCD screen. The interface signal requirements for the new LCD screens were different from the existing LCD screen and therefore required modifications in the VHDL code. • Final challenge was to modify VHDL code in such a way so that single unit can interface two new LCD screens (LED backlight) as well as existing CFL LCD screen to maintain backward compatibility. • As a move to migrate to newer technologies, PWM dimming of the LED's was implemented instead of the existing analog dimming. This was successfully implemented in the FPGA code. • Project was completed successfully.
Design and Development of	• The proposed idea is to achieve home automation using PC with serial port. • Developed successful communication with computer and microcontroller using serial port.

Home automation computer	• The microcontroller used was ATMEL 16 series. • Microcontroller was programmed using Code vision AVR, through parallel port programmer.
Face recognition system	• Developed 3 face recognition algorithms in MATLAB of which 1 gave about 90% efficiency. • This algorithm was based on manipulation of the eigen values and Euclidean distance. • Requires a database of about 5 pictures of every face to recognize the face and yield about 90 percent efficiency.
Beam leveling system	• Designed a fully automated beam leveling & brightness control for car at TIFAC-CORE in Automotive Infotronics. • Used various sensors to monitor the level of the beam required & also brightness required for proper vision of the driver. • This was completely developed in Free Scale architecture.
Collision Avoidance System	• Developed a collision avoidance system, which can be implemented in a car. • Uses a DSP and a camera serving continuous images of the front of a car. • The algorithm involved edge detection, hence estimating the width of the vehicle in front to judge the proximity. • It would also serve as an aid to the driver in parking the car.
Power loss minimization in a 6T SRAM	• Minimized the power loss due to leakage current in a 6-transistor SRAM cell by varying the oxide thickness of various transistors under the reference of a few IEEE papers. The simulation tool used was Tanner Spice. • The project demanded understanding the working of a 6-transistor SRAM cell along with its basic architecture, components and the various kinds of leakage currents.

SPECIAL COURSES UNDERTAKEN

Embedded System Design at TIFAC-CORE, VIT University *Duration: One Semester*

- Learnt the free scale architecture.
- Hands-on experience of using the free scale microcontroller kits.
- Wrote several codes understanding and experimenting with the various features available like DAC, PWM, interfacing devices like LCD etc.
- Learnt interfacing of stepper motor using stepper motor drivers.
- Designed a beam-leveling project under this course.

ACHIEVEMENTS

Academic

· Secured Merit Scholarship and Merit Certificate for three years in succession for excellent academic performance in VIT university during undergraduate B Tech program.

· Secured a certificate of merit on "Embedded System Design Using Freescale Architecture" conducted by TIFAC-CORE (Technology Information Forecasting and Assessment Council) VIT in Automotive Infotronics sponsored by Department of Science and Technology, government of India.

· Participated in ELECTRO-UTSAV 07 in the event "Line Follower" conducted as a part of the National level technical exhibition organized by School of Electrical Sciences, VIT.

· Participated in "Lunar Trek" as a part of SINC 09(SEDS India National Conference) organized by SEDS (Students for the Exploration and Development of Space) India at VIT University.

· Participated in the event "**µ-code**" of e-Fusion 08 held at VIT University during October 2008.

· Participated in the event "Robo Veda" organized by AT Solutions at VIT university during September 2008.

Cultural

· Participated in various singing, drawing and quiz competitions conducted by different schools in Maharashtra.

· Member of the "SULONIA MUSIC GROUP" at various school functions.

· Member of the school chess team.

OTHER INTERESTS

Table tennis, cricket, singing, listening to music, internet surfing etc..

PERSONAL DETAILS

Full Name:	Shreyas Shyamsunder
Age:	22 years
Date of Birth:	31-07-1988
Sex:	Male
E-mail:	shreyas19881988@yahoo.com

I hereby declare that the above information is to the best of my knowledge.

Shreyas Shyamsunder.