



Indian Institute of Technology, Bombay

Parth Bapaye

Electrical Engineering

Specialization: Electronic Systems

153074015

M.Tech.

DOB: 23/10/1991

ACADEMIC DETAILS

Examination	University	Institute	Year	CPI /%
Post Graduation	IIT Bombay	IIT Bombay	2017	8.58 (ongoing)
Graduation	GTU, Gandhinagar	SCET, Surat	2013	7.90
Intermediate/+2	GJ Board	BVS school, Surat	2009	70.60
Matriculation	GJ Board	BVS school, Surat	2007	76.62

AREAS OF INTEREST

- Real Time Embedded Systems ,Algorithm Design, Interactive Programming, Machine Learning, Data Science, Cloud Computing, FPGA Programming, Product Design

TECHNICAL PROFICIENCY

- **Languages:** C, C++, VHDL, Verilog, SystemC, Embedded C
- **Tools:** GHDL, QT , MATLAB, Xilinx Vivado, Orcad, CCS, Eclipse, LPC Xpresso
- **Hardware Platforms:** ARM cortex M3/M0, ARM A9, TM4C1294, TM4C123, MSP430F5529, Virtex 7, LPC1788

RELEVANT COURSES

- Classroom Courses
 - Digital Image Processing
 - Communication Networks
 - Embedded Systems
 - Systems Design
 - Digital Signal Processing
 - Introduction to Intelligent and Learning Agents
- Online Courses
 - Machine Learning
 - Programming Abstractions (C++)

SCHOLASTIC/EXTRA-CURRICULAR ACHIEVEMENTS

- Secured 99 percentile in GATE 2015, Electrical Engineering out, among 1,50,000 applicants
- Won Bronze medal for the Electrical Engineering Department, in Inter-Department Chess Championship- 2016, IIT Bombay
- Participated in National Level simultaneous Chess event by playing 20 simultaneous games

WORK EXPERIENCE

Spectrum Solutions and Technologies Pvt Ltd

(Nov 2014-Jun 2015)

Design Engineer

- Worked on implementation of Quadrature Encoder Interface (QEI) on an ARM cortex-M3 (LPC1788) processor for speed monitoring and control of an Induction Motor.
- Worked on designing Solar Powered Inverter with 600 V Input Voltage, and 5.5 KW power generation, for standalone micro-grid applications.

Bitmapper Integration Technologies Pvt Ltd

(Jun 2013–Oct 2014)

Design Engineer

- Worked on ARM Cortex A9 based (iMX6Q) Freescale processor and developed applications for the same.

- Worked on a customized Circuit Board for Signal Processing Applications of the Ground Penetrating Radar (GPR). The Features of the board include
 - Freescale Processor iMX6 with operating frequency of 1 GHz
 - FPGA Virtex 7

INTERNSHIP

Larsen & Toubro Limited (L&T)

(May – June 2012)

Trainee Engineer

- Studied the manufacturing processes of pressure vessels used for Turbines in power generators
- Was a part of design team to implement a temperature control system for manufacturing of large pressure vessels

MAJOR PROJECTS

- **M.Tech Project (Ongoing)** (May 2016-May 2017)
Title: Design of generic demodulation scheme for Med-Radio frequency receiver
Guide: Prof. Maryam Shojaei Baghini
 - PLL based implementation of the FSK Input Demodulation CD74HC4046A.
 - Implementation of FSK Input demodulation on Microprocessor (MSP430F5529) for a high baud rate of data transfer.
 - PCB design of the customized ASIC with onboard FSK Demodulator
 - Feature Extraction algorithm from the ECG, PPG signals collected from the ASIC designed in real time domain on a Microprocessor (TM4C1294)
- **Seminar Project** (Jun 2015-Nov 2015)
Title: Synchronized Wide Area Measurement Systems
Guide: Prof. Mukul C. Chandorkar
 - Time Synchronization on the wider area, and the intricacies of its implementations
 - Different types of Time Synchronization protocols such as Network Time Protocol, Precision Time Protocol and GPS based synchronization
 - Time synchronization protocol and its implementation for the wide area Power systems network, for deriving real time information on the relevant parameters from the whole system.

COURSE PROJECTS

- Design and synthesis of a group Lift Controller for Three lifts in Verilog and VHDL, with customizable floor specifications. (Course: VLSI Design Lab)
- Designed Four by four router with DOR(dimensional order routing) in Verilog and System-C platforms (Course: VLSI Design Lab)
- Four Quadrant Analog Multipliers (Using Operational Amplifiers and only passive components) (Course: Electronic System Design)
- DTMF decoding based Music system using Gortzel's Algorithm (USBSTICK5515 TI Evaluation Kit) (Course: DSP & Implementation Lab)
- Implementation of Power Line Carrier Communication System using FHSS Technology (TIVAC1294 TI Evaluation Kit)
 - Designed a communication system and a custom protocol, by using power line as a medium for communication, where the master controller generates a data packet containing the status of a particular load at the remote end of the receiver, and the load is hence controlled by the reception of the data packet over the power line. (Course: Embedded Systems)

INTERESTS

- Trekking, Adventure Biking, Playing Football, Reading Books, Chess, Interacting with people