Ankit Khandelwal
Electrical Engineering
Indian Institute of Technology, Bombay

09007032
B.Tech.
Male
DOB: 20/09/1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.65
Intermediate/+2	CBSE	SUBHASH PUBLIC SCHOOL	2009	89.00
Matriculation	CBSE	D.A.V PUBLIC SCHOOL	2007	92.80

RESEARCH INTERNSHIPS

TÉLÉCOM PARISTECH, PARIS (May-Jul '12)

Guide: *Prof. Jean-Luc Danger*

- Realized **3** alternative solutions to the **low cost** algorithm having applications in areas such as smart cards and e-commerce
- Augmented performance by reducing logic(LUTs) by **51%** and increasing frequency by **38%**
- Achieved a **100 fold** reduction in the processing time of the encrypted output
- Co-authored and submitted a research paper titled *RSM: a Small and Fast Masking Countermeasure-Extended Version* in the *Journal of Cryptographic Engineering*

PROFESSIONAL EXPERIENCE

INVENTURE FUND,KANCHEEPURAM (Jun-Jul '11)

- Single handedly created a **mobile reporting system** to store necessary metrics
- Coordinated with team members in **USA** to expand business base in India; added **10** new variety of businesses in a span of 45 days
- Prepared **due diligence** checklist for micro business; extensively **surveyed** and monitored the beneficiaries' businesses to prepare financial models

MOTILAL OSWAL SECURITIES LIMITED, MUMBAI (Dec'11)

- Analyzed trading strategies for futures and options; co-related open interest with prices

TECHNICAL PROJECTS

HARDWARE ACCELERATION OF TSUNAMI DETECTION Undergraduate Thesis

Guide: *Prof. Virendra Singh*

- Aiming to achieve **50 times** speed up using FPGAs and intelligent memory interface
- Involves manipulating large chunk of data
- Will enable detection of Tsunami waves 30 minutes before it reaches the coast

RISK ASSESSMENT IN POWER MARKETS Term Paper

Guide: *Prof. S.A. Kharpade* (Mar'12)

- Carried out a study on de-regulation of Indian power market and various risks involved
- Examined the role of financial derivatives and bidding strategies used in power trading

MOTOR DRIVER CONTROLLER

Guide: *Prof. Debraj Chakraborty* (Mar-Apr '12)

- Designed a PID controller in Matlab Simulink to control the output position of a dc motor connected to a load via PCI card
- Used nyquist and pole-zero plots to meet steady state error and rise time requirements

ACTIVE NOISE CANCELLATION

Guide : *Prof. S.N. Merchant* (Mar '12)

- Designed a circuit to cancel selective noise (~100 Hz) by destructive interference
- Assembled the circuit on a PCB using op-amp and Sallen-key filter

CHANGE DISPENSER MACHINE

Guide: *Prof. Sachin Patkar* (Mar-Apr '11)

- Realized a vending machine prototype using Verilog and synthesized on a FPGA board
- Implemented the algorithm using Finite State Machine approach

ON AIR PROGRAM RECORDER

Summer Project

Electronics Club, IIT Bombay (Jun-Jul '10)

- Developed a SD Card based interface to record online F.M. songs
- Interfaced microcontroller with SD card & external ADC using Serial Peripheral Interface

FINGERPRINT ANALYSIS

Course Project

Guide: *Prof. Deepak B. Phatak* (Oct-Nov '09)

- Worked in a team of 30 to record students' attendance based on biometric identification
- Implemented algorithms in C++ to identify minutiae, modify and sharpen images before matching them

FINANCIAL MODELING PROJECTS

TIME SERIES ANALYSIS

- Applied regressive models to analyze time series data for CPI, WPI and interest rate
- Performed **unit root tests** to examine stationarity in the data using E-Views

EXCHANGE RATE FORECASTING

- In a team of 3, researched and presented major influencers of exchange rate
- Highlighted use of balance of payments, purchasing power and interest rate parity, sticky price model, econometric models & technical analysis

TECHNICAL SKILL SET

- **Hardware Description Language:** Verilog, VHDL
- **Microcontrollers:** 8085, AVR family
- **Programming Languages**: C, C++, Python(basic)
- **Simulation Software**: Xilinx ISE, ModelSim, NGSPICE, Magic, Eagle, L.T Spice
- **Software Packages**: Scilab, Matlab, E Views, MS-Office, Dreamweaver

KEY COURSES

- **Electronics:** VLSI Design, Microprocessors, Digital Systems, Analog Circuits
- **Communication:** Probability and Random Process, Digital Communication, Digital Signal Processing, Communication Systems
- **Power:** Electrical Machines & Power Electronics, Restructured Power Systems
- **Economics**: Managerial Economics, Quantitative Methods in Economic Analysis

EXTRACURRICULAR ACTIVITIES

- Completed over **100 hours** of **French classes** with excellence, conducted by the French Embassy at IITB; presently pursuing an advanced course of **50 hours** duration
- **Won** the Electrified Challenge among **entire freshmen** batch conducted by Electronics Club
- One of the 50 students selected from over 500 across India for "Authors of Change" program by National Social Entrepreneurship Forum
- Acted as the Marketing Manager of Aagomani (department festival), 2012