Adwaitvedant Mathkar   09D07020

Electrical Engineering   UG Third Year(Dual Degree)

Indian Institute of Technology, Bombay   Male

Specialization: Microelectronics   DOB: 23 Aug, 1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	9.24
Intermediate/+2	Maharashtra State Board of Secondary and Higher Secondary Education, Pune	R.D.National College	2009	79.50
Matriculation	Maharashtra State Board of Secondary and Higher Secondary Education, Pune	I.E.S Modern English School	2007	89.69

Additional Education: .

- Pursuing a course (for a period of **one year,** digital mode) on **Digital Evidence Analysis** from **Asian School of Cyber Law**, covering *Cyber Crime investigation, Digital Evidence Analysis, Cyber Forensic* and *Information Technology Law*
- Pursuing a **minor** in the field of **Computer Science**.

Major Scholastic Achievements: .

- *International Award*: Awarded a **Silver Medal** at the XI **International Astronomy Olympiad** (IAO) held at Mumbai, India. Was awarded the **Infosys scholarship** for the same [November 2006]
- Stood **nationwide 1st** at the **Indian National Mathematics Olympiad**. Attended **International Mathematics Olympiad Training Camp** (IMOTC) for a period of one month, undergoing training in fields such as *Combinatorics, Number Theory, Geometry, Algebra etc* [May 2009]
- Secured an **All India Rank** of **176** amongst **~3,80,000** people in the prestigious **Indian Institute of Technology- Joint Entrance Exam** [May 2009]
- Ranked amongst **Top 250**, from **~ 34,000** students in both **Indian National Physics Olympiad** (InPhO) and **Indian National Chemistry Olympiad** (InChO) [Nov 2009]
- Was amongst the **Top 6** students in my batch in the **National Balshree Competition** in the field of **Creative Scientific Innovations.** Was awarded a scholarship by **National Council Of Educational Research**(NCERT) for a period of 2 years.   [Dec 2006]
- Secured a **nationwide** rank of **44** in the **National Science Talent Search Examination**. [2006]

Non Academic Activities: .

- **Execution Panel, InsIghT**, the Institute Student Newsletter - Involved in addressing issues of the day via **generating content** for the newsletter ,website and institute bulletin boards.
- Was selected under **National Sports organisation** (IITB) to undergo training in **swimming** for a period of one year. Only 35 students were selected across the institute (from my batch)
- **Swimmathon**: Swam 10.5 km in 6 hours at the swimmathon 2010, annual endurance swimming competition at IITB
- Represented Hostel in **Water polo**, General Championships.
- Was involved in the **organization** of **Mood Indigo, 2009** and **The Entrepreneurship Summit, 2010.**

- Represented school at various **Chess** and **Quiz** competitions.

Major Projects Undertaken .

Pratham: IIT Bombay Student Satellite Initiative   [May 2010 – Feb 2011]
Worked **alongside 20** students towards the development of IITB's **first student** satellite.
As a part of the **Power Subsystem** team, carried the **implementation** and **testing** of hardware.
As a part of **Quality Assurance** team, calculated the **reliability** of the onboard electronic circuit.

Computer Architecture: (Course project for Digital Lab**)**   *Grade in course=AA*   [Jan 2011-April 2011]
Along with **2 batchmates,** designed and implemented a **CPU** based on **Von Neumann** Architecture.
In particular, **conceptualized** the entire **top level** design.
The entire CPU was implemented, in **hardware,** using common components such as gates, flip flops etc

Unique Identification for IITB Campus   [July 2009 – Nov 2009]
(Course Project for CS 101) *Grade in Course = AA*
As a part of a **20** member team, successfully implemented a **software** for **biometric authentication**(on basis of **fingerprints**) for IITB campus.
As a member of the **Duplicate Detection** team, coded C++ programs to identify, if a finger print received is genuine. Also coded programs to update the database whenever a new fingerprint was received.

Personal Projects: . ----

1. Autonomous Image Processing Robot: [Dec 2010]
Along with **3** other **students**, constructed an **autonomous** robot capable of separating different coloured balls and depositing them in different boxes. **Designed** and implemented various **blob detection** and **tracking algorithms** in OpenCV. In particular, **conceptualized** the entire **image processing** part myself.

 Placed amongst the **top 8** robots at **Techfest 2011, Asias largest** student technical festival, organized by IITB.

2. GPS Navigator : Under the guidance of the **Electronics Club**, IITB, developed a **GPS Navigator** using **ATMEGA 32** and an external **EE PROM**. A **Graphical User Interface** to display the stored location as red dots and path joining them was designed. The project was done in coordination with **2 other students**.

Selected Courses .

Core Courses	Microprocessors, Principles of Communication System, Network Theory, E-M Waves, Electronics Devices and Circuits, Signals and Systems, Analog Circuits, Digital Systems, Electric Machines and Power Electronics, Control System*,Digital Signal Processing*, Digital Communication*
Computer Science	Artificial Intelligence, Data Structure and Algorithms, Operating Systems, Computer Graphics, Discrete Structures, Introduction to Computer Programming and utilization, Computer Networks*
Mathematics	First Course in Optimization, Probability and Random Processes, Data Analysis and Interpretation, Linear Algebra, Differential Equation I and II, Complex Analysis, Vector Calculus
Humanities and Social Science	Economics, Introduction to Psychology
Others	Electricity and Magnetism(T+L), Chemistry(T+L), Instrumentation and Measurement Lab

 * T=Theory L=Lab   *to be completed by april 2012

Software Skills: .

Programming: C, C++, Java, Perl, Python, Haskell
Web Development: HTML, CSS, PhP, MySQL
Hardware Description Language: Verilog, VHDL, MyHDL
Microtrollers: AVR Atmel family, PIC 16
Other Packages: Matlab, Eagle (PCB Layout Editor), OpenCV(image processing), Spice
Operating System: Linux/Unix, Windows