MAYANK BHURA
3rd Year B. Tech
Computer Engineering
National Institute of Technology, Karnataka, India
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EDUCATION

Year	Degree/Certificate	Institute/School, City	CGPA/ %
2012-Present	Bachelor of Technology	National Institute of Technology Karnataka	7.68/10
2012	Class XII: ISC Board	St. Thomas' Boys' School, Kolkata	94.25
2010	Class X: ICSE Board	St. Thomas' Boys' School, Kolkata	94.4

OBJECTIVE

To make a meaningful impact on the lives of people around the globe, through a Software Engineer's vision, at Google.

ACADEMIC ACHIEVEMENTS:

- **Rank-15** out of 1532 teams (1st in college) in ACM ICPC Asia-Amritapuri Online Contest 2014. Team name: 15MB
- **Rank-31** out of 446 teams (1st in college) in ACM-ICPC Asia-Kharagpur Online Contest 2014. Team name: 15MB **All India Rank-26** in IEEEXtreme Programming Competition 8.0, 2014.
- **All India Rank-71** in IEEEXtreme Programming Competition 7.0, 2013.
- **All India Rank-2273 and State Rank-71** in AIEEE 2012, out of 1.25 million candidates (top 0.1%)
- **Global Rank-103 and India Rank-36** in a short-time based Online Programming Competition (2014) at www.codechef.com. Competition Link: www.codechef.com/rankings/COOK46/IN . Profile Link: www.codechef.com/users/mb1994
- Was selected in the **Top-30** batch from among 500 students competing for IITJEE 2012, at FIITJEE, Kolkata in 2011.
- Qualified to Round 1 of Google Code Jam, 2014.
- Consistently stood in Top 3 of the class during my entire schooling period from 2nd – 12th standard, except 11th standard.
- Ranked **6th and 9th** respectively from among 250 students, in ISC and ICSE Board Exams.
- Scored a perfect 10/10 grade in Data Structures and Algorithms Lab Course, at college. Received Quizzing, Essay-writing and Elocution awards multiple times at school.

PROJECTS/SUMMER INTERNSHIPS:

1. Institute: Variable Energy Cyclotron Centre (VECC), Department of Atomic Energy (DAE), Government of India (GOI), Kolkata.
Topic: Parallel Programming using CUDA C and OpenCL C. **Period:** May-July, 2013.

- ALICE (CERN) Muon-Filter Program:
  1. Used to find number of best possible trajectories of muons, from data generated by Lead-Lead nuclei collision in the Large Hadron Collider (LHC) at CERN. Program was based on this model.
  2. Implemented on NVIDIA and AMD GPUs in parallel, using CUDA and OpenCL API. Optimized using debugging tools like NVIDIA Visual Profiler and CUDA Occupancy Calculator.
- Parallel Function Differentiator:
  1. A CUDA Program that plots first and second differentials (using GNUPlot) of any differentiable function using Parallel Computing methods on GPUs.
  2. Implemented the same using OpenCL on multiple GPUs and CPUs in parallel.

2. Intern at Healthlucid, a US-based Silicon Valley Startup:
Task: Can't be disclosed. **Period:** October 1st 2014-Present.

3. C/C++ Code Kick-Starter: (link: *www.github.com/mayank2903/code-kick-starter)*

- A **C++ Program** that intelligently includes default header files, defines and the main function template into a C/C++ file and opens it with user's desired IDE, to save time for quick submissions in Competitive Programming Competitions.
- Program first checks for file's existence in the user-specified directory, and creates/reopens files accordingly.
- Implemented as terminal command for ease and speed of access. Records time-stamps for each command invocation.

4. Client-Server implementation of Telephone Directory:

- Used JAVA networking API to implement Client-Server model.
- JDBC used to connect to telephone directory database.

- Command-line interface with the insert, delete, and search-field operations.

5. <u>GUI-Based Calculator using JAVA:</u>

- Used the **Shunting Yard Algorithm** to evaluate infix expressions entered.
- Analyzed the relative positions of buttons in the layout, and arranged it according to user's ease of access, based on feedback from students, and by practicing on other button combinations.
- Implemented GUI using JAVA Swing Library.

TECHNICAL SKILLS

- **Programming Languages:** C, C++, JAVA, and Python.
- **Programming Experience: 3 years** in C/C++ and **>5 years** in JAVA.
- **APIs:** CUDA, OpenCL, C network programming API.
- **Platforms:** Linux, Minix, Windows.
- **Others:** ArgoUML, Logisim, MySQL.

POSITIONS OF RESPONSIBILITY & EXTRA CURRICULAR ACTIVITES

- **Internship Coordinator** for the Department of Computer Science and Engineering, NITK.
- Danced in Incident '13, '14 (Annual College Cultural Fest) and other intra-college events.
- Hobbies: Competitive Programming, Swimming, Poetry, Dancing, Rapid Typing (88wpm), Magic tricks, Learning new things.

COURSES UNDERTAKEN

- **Core courses:** Data Structures and Algorithms, Unix Network Programming*, Design and Analysis of Algorithms, Database Management Systems, Operating Systems, Theory of Computation, Design of Digital Systems, Concrete Mathematics and Discrete Mathematics.
- **Self-Taught courses:** CUDA C Programming, OpenCL C Programming, Python Programming*, How to Learn, Web Development*.

**currently running courses.*