Suyash Mahar

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Education

- **Indian Institute of Technology, Roorkee** — Roorkee, India
  B.Tech., Electronics and Communication Engineering (CGPA: 9.21/10) — *July 2016 - Present*
  - **Coursework includes**: Computer Architecture and Microprocessors*, Digital Logic Design*, Data Structures & Algorithms and Probability & Statistics.
    - *Grade for outstanding performance*

- **Inspiration Public School** — Haldwani, India
  Senior Secondary Education, CBSE (94%) — *2014 - 2016*

Experiences

- **Undergraduate teaching assistant** — ECE Dept., IIT Roorkee, India
  For ECN104 - Digital Logic Design (Enrollment 85) — *January 2018 - present*
  - Work includes writing assignment series on hardware description using Verilog HDL for ECN104, teaching students basics of hardware description using Verilog.

- **Design of efficient FIB table for NDN routers** — CSE Dept., IIT Roorkee, India
  Research Project — *July 2017 - January 2018*
  - Worked under Prof. Vaskar Raychoudhury and Dr. Divya Saxena on ways to accelerate FIB look ups in NDN routers using re-configurable hardware.
  - Work included designing efficient data-structure to represent information base and implementing on an FPGA.
  - Speed of upto 4.1 compared to previously proposed FPGA based design was obtained.

- **FPGA implementation of CORDIC algorithms** [report] — ECE Dept., IIT Roorkee, India
  Short term project — *May 2017*
  - Studied and implemented CORDIC algorithms on FPGA under Prof. Bishnu Prasad Das.
  - Used Python (Jupyter notebook) for modeling and Verilog for design and implementation.

- **Single cycle 32-bit RISC processor** [link]
  Hobby project — *June 2017*
  - Created a simple implementation of 32-bit MIT 6.004 architecture with improvements and additions.

Awards and Achievements

- Dedicated member award, National Service Scheme (IIT Roorkee) — *April 2017*

- **Joint Entrance Examination, Advanced (Indian Institute of Technology)** — *May 2016*
  All India Rank 1387, 99.3 percentile

- **International Cyber Olympiad (SilverZone)** — *Dec. 2014*
  Olympiad Rank 11, State Rank 1

Other Projects

- **.gitignore file manager for Linux (Shell programming)** [link] — *December 2017*
  Project work includes writing BASH shell script.

- **Triangle art generating views (Java programming, team size: 3)** [link] — *March 2017 - May 2017*
  Uses Delaunay triangulation and custom coloring algorithm for generating views for Android.

Extra-Curricular

- **Mobile Development Group** [link] IIT Roorkee, India
  Android Development *January 2017 - present*
  - Delivered several institute and group level talks and lectures on Android development and coding practices.

- **National Service Scheme** IIT Roorkee, India
  Voluntary work *September 2016 - April 2017*
  - Taught underprivileged students from nearby areas for free of cost.
  - Awarded dedicated member award for overall performance.

Skills

Languages: (System)Verilog, C++, MIPS assembly, SPICE, LaTeX, Python, C#.NET, Java, BASH

Software: Vivado, MatLab, LTspice, Visual Studio 2017

Languages: English, Hindi

Interests

Academic: Computer Architecture, Re-Configurable Computing, Embedded systems

Computers: Currently maintaining two applications on GitHub (Android and Windows)

Campus Groups: Active member of IEEE Special Interest Group and Mobile Development Group