

# Amitabh Yadav

M.Sc. COMPUTER ENGINEERING (pursuing)

D.O.B.: 27th March 1995

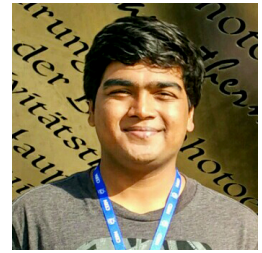
Nationality: Indian

M. +31 61 78 89 335

E. amitabhydv@gmail.com

LinkedIn: amitabhydv

WWW: amitabhyadav.com



## ABOUT ME

I chose to Computer Engineering to learn Computer Architectures, VLSI and Quantum Computing. Meticulous engineering graduate, I am passionate about research in Processor Design and Quantum Computing. I am cheerful, disciplined, team-player, hard-working and I NEVER GIVE UP. My hobbies are photography, travel, reading and occasionally, pencil sketching.

## EDUCATION

University	Specialisation	Year	CGPA/%
Delft University of Technology	M.Sc. Computer Engineering	2017-present	NA
University of Petroleum and Energy Studies	B.Tech. Electronics Engineering	2013-17	3.09/4.00
St. Fidelis College (Sr. Sec. School)	Physics, Chemistry, Maths, Computer Science	2012	85.5%
St. Aloysius College (High School)	English, Maths, Science, Social Science	2010	9.4/10.0

## AREAS OF INTEREST

Processor/ASIC Design, FPGA/VHDL Firmware, Digital DAQ, Parallel Programming (OpenCL/CUDA), VLSI (Design and Test), Quantum Computing (Algorithms, Hardware, Cryptography) and Space/Defence Electronics.

## PUBLICATIONS/PATENTS

- Yadav, Amitabh, et al. "Wireless Sensor Network Based Patient Health Monitoring and Tracking System", in *Advances in Intelligent Systems and Computing*, Springer, 479, (2016): pp.903-917.
- Amitabh Yadav, Vivek Kaundal, Abhishek Sharma et al. "WSN Based Patient Health Monitoring and Tracking System". [FILED INDIAN PATENT]

## INTERNSHIP/EXPERIENCE

- Delft Aerospace Rocket Engineering** (Stratos III) Delft, Netherland  
Electronics Integration and Test Engineer for Stratos-III October 2017 - Present  
I am working on PCB Design using Altium Designer 18 and DAQ Firmware Development on ARM Cortex M3 Microcontroller.
- CERN** (EP-ADE-ID, ATLAS Experiment) Geneva, Switzerland  
Summer Student under Dr. Carlos Solans Sanchez, Staff Scientist, CERN June - August 2017  
Inner Tracker Firmware (F/W) Development for Phase II Upgrade of ATLAS Inner Detector.  
I developed a front-end DAQ firmware integrating an IPBus for front-end data/status monitoring, an 8b/10b encoding based Rx/Tx Core to communicate with the FE-I4 Silicon Pixel Detector Chip and a back-end GBT communication protocol. I also developed a data\_routing entity called E\_Link Bank. (Link: Report)
- Bhabha Atomic Research Center** (DA&PS, Mod Lab) Mumbai, India  
Research Intern under Dr. S.K. Lalwani, Scientist, BARC. June - July 2016  
Bhabha Atomic Research Centre (BARC) is India's prime nuclear research facility based in Mumbai (INDIA).  
I developed Compression and De-Noising Algorithms for A-, B- and C- Scan Ultrasonic Scan Data for application in Non-Destructive testing of Materials using Information Coding algorithms.
- Oil and Natural Gas Corporation Ltd.** (GEOPIC Hq) Dehradun, India  
Trainee under Mr. A.K. Dohare, Superintending Engineer, ONGC. June - July 2015  
Study of Computer Networks, OSI Model, and Data Storage and Analysis at Geodata Processing & Interpretation Centre (GEOPIC), ONGC Ltd.

## NATIONAL/INTERNATIONAL COMPETITIONS

- **Lockheed Martin Roll-ON/Roll-OFF Design Challenge 2015-17** *August 2015 - May 2017*  
As Chief Electronics in Phase-II (Critical Design Phase) of the competition by Lockheed Martin, I worked on detailed technical design of Aerial Surveillance Systems using drones, Automation of Aircraft Payload. We excelled with national rank 1, we secured a research grant by the company (\$25,000 & \$40,000) to manufacture the prototype payload structure for C-130J Super Hercules Military Aircraft. (News: Tribune March 22, 2016)
- **ESRA Intercollegiate Rocket Engineering Competition 2017 (New Mexico, USA)** *August 2016 - May 2017*  
I worked as the Chief Avionics and Payload Electronics Engineer for the Sounding Rocket 'Kalam' in Team Garud (Rocketry Division of UPES). 'Kalam' stood 2.8 meters tall, a Solid COTS-propellant based sounding rocket that carries a scientific payload weighing 4 kgs.
- **NASA CanSat Competition 2017 (Texas, USA)** *August 2016 - June 2017*  
Team technical advisor to Team Astral. We achieved International Rank#1 with a cumulative score of 96.32% outranking 90+ participating university teams from more than 10 countries. (Link: Results)
- **NASA CanSat Competition 2016 (Texas, USA)** *August 2015 - June 2016*  
As Team Leader (Electronics) of Team Astral, I lead the development and integration of Sensor Subsystems (using AVR MCU), Communication Systems (ZigBee and ESP8266) and Ground Control Station (GUI). We achieved an International Rank of 4th out of 72 teams worldwide and 1st in Europe and Asia. (News: Business Insider, July 19, 2016)
- **NASA CanSat Competition 2015 (Texas, USA)** *August 2014 - June 2015*  
As a Member Electronics group of Team Astral, I developed the Sensor Subsystem (Arduino MCU) and Ground Control Station (MATLAB based GUI) for the *Auto-Gyro Recovery Imager*. We achieved an International Rank 13th out of 43 teams worldwide.

## ACADEMIC PROJECTS

- Running Shor's Algorithm on IBM Quantum Experience using IBM-Q QISKit.
- OpenCL implementation of Smith-Waterman Algorithm for Protein/DNA Sequencing. (CUDA provided)
- Modelling and Simulation of a 16-bit Microcontroller in Xilinx/VHDL. [BACHELORS THESIS PROJECT]
- Embedded Hardware development of AVR-MCU based Audio-Signal Morse Code Encoding/Decoding.
- Early Warning System using Wireless Sensor Networks for Landslide Forecasting: A University-Funded research project (Rs. 25,000). [UPES BEST RESEARCH AWARD 2017]
- Wireless Sensor Network based Patient Monitoring and Tracking System: University-Funded Research Project (Rs. 20,000) [UPES 2015 RESEARCH RANK – 8TH].

## TECHNICAL SKILLS

**Programming** (C/C++, Java, VHDL, Embedded C, CUDA, OpenCL, Python)  
**Software Tools** (Matlab, Altium, Vivado, Xilinx ISE, ModelSim, Cadence Spectre, Raspberry Pi3, Atmel Studio, L<sup>A</sup>T<sub>E</sub>X, Adobe Photoshop, IBM-QuantumExperience).

## CO-/EXTRA- CURRICULAR ACTIVITIES

1. IEEE Member and IEEE Computer Society Member. (3 years)
2. EEMCS, TU Delft Blogger. (amitabh.weblog.tudelft.nl)
3. UPES Discipline Committee: Head 2016-17 and Member 2014-16.
4. Class Representative of Electronics Engineering Branch for all 4 years of Bachelors.
5. Volunteering: 10th Uttarakhand State Science and Technology Congress 2015-16.
6. IT and Design Head at UPES-IEEE Student Chapter and Manager at Annual Technical Fest, Ignite 2014-16.
7. Worked as Photographer in events and concerts.
8. Organised UPES's first Photography Exhibition, The Explorer's World ver1.0 in 2014.

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I declare that the details above are correct and true to the best of my knowledge.

**Amitabh Yadav**