Dhruv Kanti Bhanushali

Junior, Engineering Physics (EPh),
Indian Institute of Technology, Roorkee
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Education

Year	Institute - Board	CGPA / Percentage
2015 –	Indian Institute of Technology, Roorkee – *B. Tech. in Engineering Physics*	7.433 / 10
2012 – 2014	Jaipuriar School, Navi Mumbai – *Class XII (PCM + Computer Science)*	91.2%
2004 – 2012	Seventh-Day Adventist Higher Secondary School, Navi Mumbai – *Class X*	95.8%

Projects

Analysis of electron cloud densities in particle accelerators – *High-energy accelerator Physics*

The aim of the project is to analyze and formulate a theory explaining the density of the photoelectron cloud formed in the tube of a particle accelerator due to photons emitted by accelerated charges.
Supervisor: Dr. Puneet Jain*, Department of Physics, IIT Roorkee*

Augmented virtual keyboard – *Electronics and computer programming*

Created a keyboard that can be typed on after projection onto a flat surface. Used an array of infrared LED and computer vision to detect tap co-ordinates and convert them to typed characters on the computer.
Equipment: Projector, IR array, IR webcam, OpenCV, Adobe Animate and Python

Rethink – *Python (Django) app development*

Developed an inventory management system, a time-scheduling system and a static homepage for Rethink, the tinkering lab of IIT Roorkee, to manage resources (networked and offline) and scheduling at Rethink.
Backend: Django (Apache + mod_wsgi_py3)
Frontend: Django templates, HTML, CSS and jQuery

Positions of responsibility

Indo-Japan Accelerator School 2017 – *Local organizing committee member*

IJAS was a collaboration between Indian and Japanese institutions to foster learning in the field of particle accelerators. I was a core member of the local organizing committee of IJAS2017, credited with building and maintaining the official website of the school.

HackerEarth – *Software development intern*

HackerEarth is an Bangalore based startup that provides talent assessment and innovation management services to enterprises. I interned for two months and created a project evaluation module with support for Java on Ant, third-party libraries, database connections, security policies and JUnit tests.

Information management group, IIT Roorkee – *Project leader*

Information management group is the students' group that created, maintains and upgrades the intranet portal Channel-i. I developed and improved many important apps, including the revamped internship/placement portal of IIT-R.

Artificial intelligence and electronics section, IIT Roorkee – *Mentor*

ArIES is the section of the Hobbies club devoted to advancing the field of artificial intelligence and electronics in IIT Roorkee. After taking up electronics as my proficiency in my sophomore year, I successfully completed one project with ArIES and have now been promoted to *mentor*.

Skills

Software applications: Wolfram Mathematica, MathWorks MATLAB + Simulink, National Instruments Multisim
Computer languages known: FORTRAN, Python and Java (including scientific libraries and popular frameworks)
Human languages known: English (SRW), Hindi (SRW), Marathi (SRW), Gujarati (SR), Kutchi (S)

Courses taken:

Physics related courses
PHN-008: Electromagnetic theory
PHN-102: Analog and digital electronics
PHN-104: Thermal and statistical Physics
PHN-207: Mechanics and relativity
PHN-209: Mathematical Physics
PHN-211: Quantum Physics
PHN-204: Atomic, molecular and laser Physics
PHN-206: Elements of condensed matter Physics
PHN-208: Nuclear Physics and applications
PHN-210: Microprocessors and peripheral devices
PHN-214: Applied optics
PHN-313: Signals and systems
PHN-315: Lasers and photonics
PHN-317: Plasma Physics and applications
PHN-327: Physics of nanosystems

Computer related courses
MAN-001: Mathematics-I
MAN-010: Optimization techniques
EEN-112: Electrical sciences
MIN-108: Mechanical engineering drawing
PHN-103: Computer programming
PHN-205: Engineering analysis and design
MTN-105: Electrical and electronic materials
PHN-311: Numerical analysis and computational Physics

Achievements:

- Ranked 3110 (GEN) among about 1.5 lakh (equivalent to 150 thousand) students in JEE Advanced.
- Successfully completed two apps overnight as a part of code.fun.do 2016 and 2017.
- One of the most prolific developers in IMG (and therefore, in IIT Roorkee).
- Scored top grades (A+) in all computer related courses.

Interests:

Apart from software development I am also interested in theoretical Physics. I like to unwind with a good film or TV series episode. You'll find me plugged to my music almost all the time. I also like to read (almost every genre) and write (non-fiction, humor).

References:

Dr. Puneet Jain
Assistant professor,
Department of Physics,
IIT Roorkee

Dr. Rajesh Kumar
Assistant professor,
Department of Physics,
IIT Roorkee

Dr. Arumugam Paramasivan
Associate professor,
Department of Physics,
IIT Roorkee

Details:

For further information, please contact me via any of these social media:

GitHub Portfolio   https://dhruvkb.github.io/
GitHub   https://github.com/dhruvkb/
LinkedIn   https://www.linkedin.com/in/dhruvkb/
Facebook   https://www.facebook.com/dhruv.k.bhanushali/