Nabarun Pal

Pre-final year undergraduate at Indian Institute of Technology Roorkee

Areas of Interest

Software Development, Internet of Things, Robotics, Machine Learning

Personal Data

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Work Experience

May '16 - July '16 — Software Engineer at Gurupriyam Innovation Labs, Bengaluru, India

- Developed experiential products using Leap Motion Controller and various web API's
- Developed interactive billboards using Kinect V2
- Made a productivity enhancement device to be installed in offices for helping employees in tracking their sitting time
- Developed an **Automatic Irrigation System** controller using 555 timer and ESP8266 to enable IoT connectivity

Jan '15 - Current — Software and Hardware Systems Engineer at Team Robocon, *Indian Institute of Technology Roorkee*

- Solved the problem statement of **ABU Robocon 2016** with a team of 24 members
- Developed libraries in **Python** and **C++** to extract data from **generic USB Joysticks** and DualShock 3 controllers using any **linux** based system or Arduino
- Designed **multi-layered PCB's** for Raspberry PI 2 and Arduino Mega 2560
- Designed a **voltage indicator circuit** to prevent under-voltage of Li-Po batteries
- Worked on developing autonomous navigational algorithms for control of **Omni-wheeled and Mecanum wheeled** robots by Arduino and Raspberry Pi

Jan '15 - Current — Joint Secretary & Project Mentor at Models and Robotics Section, Indian Institute of Technology Roorkee

- Working on developing software for Swarm Robotics in order to enable communication between bots via WiFi
- Fabricated and developed a **Self-Balancing Robot** which balanced by taking feedback from a **6-axis Inertial Measurement Unit** and employing filters & PID control
- Mentored a project which involved a robot which travels along a rope and sends video captured through a phone by streaming it through IP

Aug '14 - Current — Web Head & Finance Executive at IIT Heartbeat, *official Inter-IIT magazine of IIT Roorkee*

- Responsible for the web activities of the magazine
- Helped in procuring a funding of Rs. 20000 which is approx. 80% of the total funds of the magazine
- Managing a team of 15 members for Web and Finance activities

Software and Hardware Skills

Languages:	Python, Node.js, C/C++, LaTeX
Databases:	MySql, MongoDB, Cassandra
Toolkits:	Django, Flask, OpenCV, PhantomJS, nltk
Software:	Git, Vim, Atom, Sublime, GNU/Linux, NI Suite, Eagle, Matlab, SolidWorks, Photoshop
Hardware:	Arduino, Raspberry Pi, TI SimpleLink

Education

Pursuing	Bachelor of Technology in Metallurgical and Materials Engineering with Minors in Computer Science and Engineeering Credits: 109/109 , **Indian Institute of Technology**, Roorkee CGPA: 8.477/10, Department Rank 3 (out of 110 students)
May 2014	**All India Senior School Certificate Examination**, CBSE | Final Score: 89%
May 2012	**All India Secondary School Examination**, CBSE | Final Grade: 10/10

Extra Curricular Activities

Jan '15 - Current	Robotics, *Indian Institute of Technology Roorkee* • Part of the team that represents IIT Roorkee in ABU Robocon • Joint Secretary at Models and Robotics Section
Nov '15 - March '16	Robosapiens, Cognizance 2016, *the annual technical festival IIT Roorkee* • Co-ordinated the event successfully • Brought in a participation of 54 teams comprising about 250 members
Aug '14 - May '15	Volunteer, National Service Scheme, *Indian Institute of Technology Roorkee* • Involved in the Event Management and Promotions Cell where my task was to promote the various activities conducted by other cells • Successfully organised Two Blood Donation Camps where we managed to collect approx 1000 units of blood in each event
Nov '14 - March '15	Breach Wars, Cognizance 2015, *the annual technical festival IIT Roorkee* • Volunteered in managing the robotics event • Managed a participant contingent of about 150 people

Scholarships and Certificates

Oct. 2016	Merit-cum-Means Scholarship for outstanding performance in academics (INR 1,00,000)
March 2016	Best Aesthetic Robot & 5th Position in ABU Robocon India 2016 (out of 105 teams)
Dec. 2015	Merit-cum-Means Scholarship for outstanding performance in academics (INR 1,00,000)
May 2015	Awarded Dedicated Proficiency Holder for outstanding social service in NSS in the year 2014-2015
March 2015	2nd Position out of 80 teams in Robosapiens - National Robotics Event - Cognizance 2015
Dec. 2014	Merit-cum-Means Scholarship for outstanding performance in JEE Advanced (INR 1,00,000)
May 2014	JEE Advanced: 177 (P:63;C:69;M:45) 99th percentile
April 2014	JEE Mains: 216 99th percentile

Languages

English:	Fluent (SRW)
Hindi:	Fluent (SRW)
Bengali:	Mothertongue (SRW)

References

Available on request