PRATEEK GOYAL

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EDUCATION

Guru Gobind Singh Indraprastha University, Delhi *2014 - 2018*
Bachelor of Technology, Major: Electronics & Communication Engineering Aggregate: 76%

Doon Public School, Delhi *2014*
Senior School (Physics, Chemistry, Maths, Comp.Science, English) Aggregate: 88.2%

Doon Public School, Delhi *2012*
Secondary School (English, Sanskrit, Maths, Science, Social Science) CGPA: 9.4/10

WORK EXPERIENCE

Current
Sept 2018

Research Associate
Indian Institute of Technology, Delhi

- Working on project titled "Energy Efficient Buildings: Technology with Intelligence".
- Involved in the development and deployment of Automatic & Adaptive Lighting Solutions Algorithm and IoT Analytics-based Smart Energy Meter.
- Designed and installed low-cost smart appliance control modules with features such as zonal control, time-table based scheduling and appliance health monitoring.
- Designed and developed web application based on Flask framework for displaying energy meter data and to control the home/building appliances, using Pyrebase built over Firebase REST API.
- Designed and developed website for forecasting the number of Covid-19 cases in India (cumulative and state-wise), through a ML model based on Keras and Tensorflow.

(Advisors - Dr. B K Panigrahi & Dr. Ashu Verma)

Jun-Aug 2016

Electronics Intern
Banaao Innovation Labs, Gurugram, Delhi-NCR

- Worked on various IoT and Home Automation products, some of which included Automated Door Mat, RFID operated coffee machine, Propeller Clock, Amazon Dash Button and Happy HR board.
- Headed training sessions to teach students and hobbyists microcontrollers programming, PCB designing & 3-D Printing.

(Mentor - Mr. Prem Sagar, CEO)

TECHNICAL SKILLS

Languages	C/C++, Embedded C, VHDL, Basics of Verilog, Python, SQL, HTML, CSS
Softwares & Tools	Arduino IDE, MATLAB, Simulink, NI LabView, Labcenter Proteus, Eagle CAD, Android Studio, MIT App Inventor, LaTeX, Xilinx ISE, Cadence OrCAD Suite & Virtuoso, Atmel Studio, Eclipse IDE, Git, Processing IDE, PLC Tools, DIALux, OpenCV, RT Lab, Web Development(Frontend:Bootstrap, Backend:Flask)
Hardware Platforms	ATMega16, Arduino Uno, Mega, Nano & Mini, ESP-8266 & 32, STM-32 Nucleo, Raspberry Pi, Basics of OPAL-RT and dSPACE

ACADEMIC PROJECTS

1. **SAMUDRA - System for Autonomous Underwater Detection and Research Activities**
   · Our team designed an AUV i.e, an Autonomous Underwater Vehicle with capabilities such as sea floor mapping, surveillance activities, sea research work etc.
   · For further references see Website and Project Files.

2. **Coin Detection based Mobile Charging System (Minor Project)**
   · Implemented a system which takes in a coin, detects it's value by image processing algorithms on MATLAB and sends that value to the microcontroller which then charges the mobile for a set of duration of time, based on the value of the coin. (Project Description & Files)

3. **Personal Weather Monitoring System (Major Project)**
   · Developed a system that can display the atmospheric and environmental parameters like temperature, humidity, dew point, pressure etc of a particular place where it is installed and also upload these values online for the user to check from anywhere. (Project Description & Files)

OTHER PROJECTS

Horosapiens, Cpp, Signal Generator, DTMF Controlled Robot, PID-based LFR, GSM-based Soil Moisture Monitoring and Alert System, Temperature Control & Indication System, Patient Health Check Monitoring System, Electronic Yarn Control System(IITD M.Tech Project), Amphibious Rover(Indian Navy)

PEER-REVIEWED ARTICLES

1. Prateek Goyal and PS Sharma, "Coin Detection based Mobile Charging System", *Proceedings of the* 13^{th} *INDIACom-2019:* 6^{th} *International Conference on Computing for Sustainable Global Development.* [Link]
2. Gaurav Prit, Prateek Goyal and Dr. Tarikul Islam, "A novel design of the Parallel Plate Capacitive Sensor for Displacement Measurement", *2019 Annual IEEE India Conference (INDICON).* [Link]
3. Prateek Goyal, Gaurav Prit and Dr. Manisha Bharti, "Smart Indoor Weather Monitoring Framework using IoT Devices and Cloud Computing", *ICSC 2020:* 6^{th} *International Conference on Signal Processing & Communication.* (**Paper Presented**)

ACADEMIC ACHIEVEMENTS

1. 2^{nd} Runner-up in Line Following Robot competition out of 20 teams at Delhi Technological University for designing a "PID based LFR".
2. Spearheaded the showcase of Banaao Lab's projects at Delhi Mini Maker Faire' (DMMF) held in August 2016, involving more than 50 exhibitors and thousands of visitors.
3. Our team project - SAMUDRA was praised by the Dy. CM, Delhi - Mr. Manish Sisodia and the then Lt. Gov, Delhi - Najeeb Jung at India International Trade Fair 2016 (IITF'16) and covered by Hindustan Times.
4. Participated in national level E-Yantra Robotics Competition hosted by IIT-Bombay and successfully completed stages 1 & 2 for image processing tasks.
5. Worked as an Educator at "Unacademy - India's largest learning platform" for 3 months, teaching students concepts of Quantitative & Logical Reasoning.
6. Attended five 1-day invite-only workshops organized by Internshala.
7. Participated in Embedded System Design competition held by Texas Instruments in our university.

POSITIONS OF RESPONSIBILITY

1. **Training & Placement Cell** — Aug 2015 - July 2018
   Student Placement Coordinator
2. **ATLAB (Robotics Club of AIACT&R)** — Feb 2015 - Feb 2017
   Core Technical Member
3. **URVAR (Eco Club of AIACT&R)** — Jan 2016 - May 2017
   Coordinating Member

INTERESTS AND ACTIVITIES

- Technology, Open-Source, Programming
- Travelling
- Enjoy all sports particularly cricket, volleyball and table tennis
- Creating content for YouTube