PRATEEK GOYAL

Paschim Vihar, Delhi-110063, India

(+91)9013591305 ⋄ prateekg045@gmail.com

 github.com/PrateekGoyal18   linkedin.com/in/prateekgoyal18   canvasoflearning.wordpress.com

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.
- Developed software, web and android applications for building management system with functionalities such as monitoring of electrical data, real-time control of appliances, HVAC control and monitoring of indoor environmental parameters.
- 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 programming, PCB designing & 3-D Printing.

(Mentor - Mr. Prem Sagar, CEO)

TECHNICAL SKILLS

Programming Technologies	C/C++, Embedded C, VHDL, Python, SQL, HTML, CSS, JavaScript
Tools & Frameworks	Arduino IDE, MATLAB, Simulink, NI LabView, Labcenter Proteus, Eagle CAD, Xilinx ISE, Cadence OrCAD Suite & Virtuoso, Atmel Studio, PLC Tools, DIALux, RT Lab
	JQuery, ReactJS, Saas, Bootstrap, Flask, AWS Elastic Beanstalk, Heroku, Google Cloud Platform, PythonAnywhere, Google Firebase, MySQL, MIT App Inventor, Android Studio, Thunkable, LaTeX, VS Code, Sublime Text, Git/GitHub/BitBucket, OpenCV, Data Analytics & Web Automation
Hardware Platforms	Atmel Microcontrollers, Arduino boards, ESP boards, STM-32 Nucleo, Raspberry Pi, OPAL-RT

ACADEMIC PROJECTS

1. **SAMUDRA - System for Autonomous Underwater Detection and Research Activities**
   - Part of the team that developed an AUV i.e, an Autonomous Underwater Vehicle with capabilities such as sea floor mapping, surveillance activities, sea research work etc.
   - Designed the website for the project and implemented microcontroller codes for integration with various sensors and display device.
   - Deployed a PID algorithm to the AUV for it's stability underwater.
   - We bagged first prize at GRIDTECH conference by presenting a working model of an Autonomous Underwater Vehicle for the detection of faults in the underwater transmission links.

2. **Coin Detection based Mobile Charging System (Minor Project)**
   - Implemented a system which detects the value of a coin by image processing algorithms 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.

3. **Personal Weather Monitoring System (Major Project)**
   - Developed an IoT mote responsible for sensing the atmospheric and environmental parameters like temperature, humidity, dew point, pressure etc and communicate these values to an online database.

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 13th INDIACom-2019: 6th 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: 6th International Conference on Signal Processing & Communication.* (**Paper Presented**)

ACADEMIC ACHIEVEMENTS

1. 2nd 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.