

## SANDESH CHHETRI

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### Career Objective

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Passionate about electronics, data and telecommunications. Currently, I'm involved in optical filter design and machine learning algorithms and their implementations. Looking for opportunities to apply my engineering knowledge as an electrical engineer.

### Academic Qualifications

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**Master of Engineering: Electrical** **Jul. 2019 - Present**

CQUniversity North Rockhampton, QLD 4701, Australia

**Bachelor of Engineering: Electronics and Communications** **Oct. 2014 - Nov. 2018**

Paschimanchal Campus, Institute of Engineering, Pokhara, Nepal

### Engineering Projects and Coursework

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#### Sensors and Actuators with PIC18F4321 Micro-controller

- Built a Home Automation System implementing sensors, actuators, and some 3D printed blocks.
- Utilised microcontroller's timers and interrupts for communication with sensors.
- Analog to digital conversion and programming peripheral chips; learned the overview of CPU architecture and used some assembly language too.
- Learned about different communication protocols like UART, I2C, etc.

#### Load Frequency Control

- Found the Transfer Functions of Governor, Turbine, and Generator with given data provided using System Identification tool in MATLAB.
- Designed and tuned a continuous PID and developed a discrete PID controller accordingly with different transformation methods with the optimal sampling time and simulated the whole plant in MATLAB.

#### Decentralised Voting System Based on Blockchain

- Built a blockchain data structure from scratch in Python.
- Using Flask, built a web app where the blockchain network was implemented.
- Learned the essential components of blockchain network like consensus, decentralisation, immutability, distributed ledger, etc.

### Technical Skills

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- **Computer Networking:** Knowledge of network wiring and LAN setup. Knowledge of principles of cryptography, digital signatures, firewalls, etc.
- **Electronics:** Electronic circuits and integrated circuits design. Extensive knowledge of micro-controllers, sensors, and actuators.
- **Web development and Database:** Proven ability to design and maintain websites and databases. Basic knowledge of distributed file systems, i.e., Hadoop, Google file systems.
- **Data Visualisation and Analysis:** Basic working knowledge of data analysis, manipulation, and visualisation with Python and its frameworks and libraries.
- **Lab Equipment:** Oscilloscopes, digital multimeters, and soldering skills

## Software Skills

C, C++, JavaScript, Node.js, SQL, Python, MATLAB

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## Work Experience

### Internship:

**Fitzroy River Water, Rockhampton Regional Council, QLD** **Mar. 2021 - Present**

- Working on control algorithms for fault detection and diagnosis on pumping systems.
- Studying the effects of bearing currents on Variable Frequency Driven pumping systems.

### Student Volunteer:

**CQIRP, CQUniversity, North Rockhampton, QLD 4701** **Sept. 2020- Oct 2020**

- Worked with postdoc Dr Anand Koirala for exploration of machine learning approaches for assessing mango crop quantity and quality.

### Student Volunteer:

**CQIRP, CQUniversity, North Rockhampton, QLD 4701** **Jul. 2019- Aug. 2019**

- Worked under the direct supervision of the project supervisor, Dr Surya Bhattarai, while maintaining excellent communication with research assistants.
- Assisted with the counting, analysing, and restocking of gamma rays treated sesame seeds.
- Developed confident, articulate, and professional speaking abilities (and experience).

### Lab Assistant:

**Balodaya Secondary School, Pokhara, Nepal** **Dec 2018 – Mar 2019**

- Provided instruction to all lab users on the proper use of all equipment.
- Presented software packages and applications and developed lab templates.
- Configured hardware, devices, and software to set up workstations for students.

## Certifications

Registered Electronics and Communication Engineer, **May 2019**  
Nepal Engineering Council

## Affiliations

Student Member, “Engineers Australia” **Jul. 2019 – Current**

Member, “Paschimanchal Campus Robotics club” **Dec. 2016 – Oct. 2018**

Member, Club of Technical Students (COTS), Paschimanchal Campus **Jul. 2017 - Feb. 2018**

## Awards

Best project presentation on the use of blockchain for secured voting systems, **Sept. 2018**  
IOE Paschimanchal Campus

## Interest

- Soccer
- Teaching
- Photography
- Trekking

## References

### Surya Bhattarai

Senior Research Fellow/Associate Professor

CQIRP, CQUniversity

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### Lam Bui

Senior Lecturer

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