# AAYUSH ACHARYA

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## EDUCATION

**Bachelor's in Computer Engineering** November 2017 – April 2022
Tribhuvan University
Institute of Engineering, Pulchowk Campus

**National Examinations Board** July 2015 – April 2017
United Academy Higher Secondary School, Kumaripati

**School Leaving Certificate** March 2015
GEMS School, Dhapakhel

## UNDERTAKEN ROLES

**Software Developer** | Rara Labs
May 2022- Current
• Built ML pipelines for identifying medical harms based on EMR data.
• Carrying out projects in REST and GraphQL API using Go. Designed independent execution threads using goroutines, worked with asynchronous messaging using RabbitMQ, constructed ISO20022 financial standard messages and devised CI/CD pipelines.

**Research Intern |** Nepal Applied Mathematics and Informatics Institute for Research (NAAMII)
Aug 2021- April 2022
Worked on Nepali automatic speech recognition using Wav2Vec 2.0 and classification using MURIL, a BERT model pretrained on 17 indian languages, as final year project thesis supervised by Bishesh Khanal, Ph.D. as a research intern at NAAMII.

**Intern |** Support and Solutions Department | LogPoint
Jan 2022- May 2022
Acquired knowledge about the fundamentals of Linux, debugging Python and Java services, shell scripting, monitoring and performance tuning, CIFS, ZFS, LVM and SIEM softwares in general.

**Editor |** Zerone Magazine
June 2021-March 2022
I was the editor of the Zerone magazine undertaking the role of Event Coverage Head. My responsibilities included covering tech events organized by LOCUS; an umbrella organization led by undergraduate students of IOE Pulchowk Campus.

**Member |** Microsoft Learn Student Ambassador
January 2020-Present
As Microsoft Student Learn Ambassadors, we serve as the community leaders, organizing workshops, hands-on training and educational seminars aided by Microsoft community experts. I organized an online event about Particle Swarm Optimization.

**Member |** Engineering Youth Network, Amnesty International Nepal
December 2019-March 2022
As a member of Engineering Youth Network, Amnesty International Nepal, we fight against injustice and human rights violations not just within our country but around the globe as well. We are an official youth network of the greater Amnesty International Organization based in Pulchowk Campus.

## SKILLS

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| **Programming Languages** | Go, C, C++, JavaScript, Python, R, Assembly |
| **Libraries & Frameworks** | gORM, Echo, gqlgen, dplyr, ggplot, NumPy, pandas |
| **Web & Mobile Development** | HTML/CSS, Node.js, Express, React, Django, Flutter |
| **Databases & Deployment** | SQL, MongoDB, Azure services, RabbitMQ |
| **Tools & Utilities** | Git, Linux-based utilities, Microsoft Office Package |

## PROJECTS

**Automatic Nepali Speech Recognition and Classification** | Major Project
An integrated ASR and NLP system that generates transcripts and relevant category for a given Nepali audio using a combination of self-supervised wav2vec2 model and CTC along with BERT based MuRIL model for Indic languages for further categorization into relevant categories like Sports, Politics, etc.

**Pest Classification using Deep Learning** | Minor Project
A cross platform mobile application made for farmers and built using Flutter for classifying pests. It consists of a TensorFlow model built with VGG-19 and made suitable for deployment on mobile devices using TensorFlow Lite Converter.

**Campus Online Attendance System** | Semester Project of DBMS & Software Engineering

A web-based attendance system for college developed using Node.js for backend, React for frontend and MySQL for database.

**Deep Learning based Facial Recognition** | Instrumentation & Locus 2020
A system built using OpenCV and TensorFlow with the help of VGG-16 model and uses Siamese network for face classification. Designed to take classroom attendance in bulk.

**E-Kisaan** | Hack A Week 2020
A web application built using Node.js meant to promote urban farming and provide a platform for buying and selling of urban farming products. **It was awarded as the winning product in the competition.**

**OpenGL based Ranipokhari 3D Simulation** | Semester Project of Computer Graphics
3D simulation of Ranipokhari programmed using OpenGL and designed using Blender with proper lighting effects, camera movement and water simulation.

## AWARDS & CERTIFICATIONS

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**Winner, Locus Hack A Week 2020**
Winner of Hack A Week 2020 organized by LOCUS 2020 under the category "Smart and Sustainable Cities" for the product "E-Kisaan".

- **Machine Learning,** Stanford University
- **Deep Learning Specialization,** deeplearning.ai
- **TensorFlow in Practice,** deeplearning.ai
- **Data Science using R**, HarvardX