AYUSH KUMAR SHAH

Computer Engineer

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EXPERIENCE

MACHINE LEARNING ENGINEER
Fusemachines Nepal

📅 Jun 2019 – Present   ⚲ Kathmandu, Nepal

- Working on several client-based ML projects from the US as well as internal ML projects of the company in the field of NLP, Computer vision, Recommendation systems. Worked on the whole ML pipeline: data collection, data cleaning and pre-processing, model building, tuning hyperparameters, model training, and model evaluation.
- Involved in design, review, and refinement of content - reading material, quizzes, assignments, and projects for Fusemachines AI Education Programs - "Foundations in AI: Mathematics for AI", "Micro Degree™ in Artificial Intelligence: Machine Learning, Computer Vision"

COMPUTER SCIENCE INSTRUCTOR
Samriddhi College

📅 Jan 2020 – Present   ⚲ Kathmandu, Nepal

- Teaching the course "Foundations in AI: Computer Science and Mathematics" to undergraduate BSc.CSIT students.

EDUCATION

Bachelors in Computer Engineering
Kathmandu University

📅 Aug 2015 – Oct 2019   ⚲ Kavre, Nepal

- CGPA: 3.96/4

Higher Secondary School: Science
GEMS Institute of Higher Education (GIHE)

📅 Jul 2013–Jun 2015   ⚲ Lalitpur, Nepal

- 86.2%

ACHIEVEMENTS AND AWARDS

Columbia University: Micro-masters in AI (EdX Program)

📅 Oct 2019 – Present

- Selected into a highly competitive fellowship program with an acceptance rate of 6.5 % , which covers 25 % of the actual graduate-level course load at Columbia University.

Kathmandu University Merit-based scholarship

📅 2019

- Awarded for securing the highest GPA in the Computer Engineering cohort in the 3rd, 4th, 5th and 8th semesters respectively. The scholarship was worth $440 each semester.

Fusemachines Artificial Intelligence Scholarship Program

📅 Nov 2018

- One of the 100 recipients of the Fuse.ai Artificial Intelligence Scholarship Online Course selected among thousands of candidates nationwide.

American Society of Nepalese Engineers Merit Award

📅 May 2016

- This merit worth $200 is rewarded to the entrance toppers of universities, seeking admission for undergraduate degrees.

46th International Physics Olympiad (IPhO) Contestant

📅 Jun 2015   ⚲ India

- IPhO is one of the largest olympiads for high school Physics enthusiasts with 100 participating countries and 5 contestants from each nation.

9th Nepal Physics Olympiad

📅 May 2015   ⚲ Kathmandu, Nepal

- One of the 5 nationwide winners among the 200 participants.

PROJECTS

AutoCar
- A self-driving car that can detect lanes, stop sign, traffic light and avoid a collision, built using Canny edge detection, Hough transform, Haar cascade classifier, and Arduino programming.

Nepali Plagiarism Detection (NLP)
- An application that detects plagiarised Devanagari text files using a self-built rule-based stemming algorithm and Cosine similarity.

Guitar chord recognition app
- An application that predicts the chords when the Mel spectrograms of guitar sound are fed into a CNN.

Sarangi: Nepali lyrics emotions extraction (NLP)
- A framework that categorizes songs written in the Devanagari script into four emotions using Naive Bayes and SVM.

AI Plays GTA 5: Simulating self-driving vechicles
- A bike-riding agent in a virtual environment (GTA5), built using CNN, used for simulating self-driving vehicles.

Recommendation system
- A recommendation system for a US e-commerce client, built using NFM to increase revenue through cross-selling.

Nepali Intelligent Character Recognition System
- A framework built using CRNN to predict the handwritten texts in both English and Nepali language in each field of a form.

MathMate – advanced mathematical calculator
- An android app that solves different types of mathematical equations, numerical computations, and calculus problems showing involved steps.

TECHNICAL SKILLS

Language	Python, R, C/C++, SQL, Android
Libraries	Scikit-Learn, Pytorch, Tensorflow, Keras, NLP, OpenCV
Tools	Pandas, Numpy, Matplotlib, Matlab, Jupyter notebook, Flask, Conda
Others	Git, Github, Jira, Linux, Arduino, Raspberry pi

CLUB INVOLVEMENT

ANDROID COMMUNITY COORDINATOR
Kathmandu University

📅 Jun 2018 – Jun 2019 📍 Kavre, Nepal

- Conducted several workshops and training programs on OOP, JAVA, Android
- Built an android app for the computer club

EXECUTIVE BOARD MEMBER
Kathmandu University Computer Club

📅 Jun 2017 – Jun 2018 📍 Kavre, Nepal

- An active student-run club of Department of Computer Science and Engineering
- Conducted regular monthly and weekly workshop and also organized various annual events like Software Freedom Day

MANAGEMENT SKILLS

Entreprenerds Tales' v2.0 Organizer
Kathmandu University

📅 Jul 28, 2019 📍 Kavre, Nepal

- Organizing team member of a talk event based on the theme "Leadership and Technology in Entrepreneurship" where entrepreneurs shared their experiences and journey to success

IT MEET v 8.0 Organizer
Kathmandu University

📅 Dec 28-29 2018 📍 Kavre, Nepal

- Organizing team member of one of the premier annual IT event of Nepal, IT Meet

COURSES COMPLETED

Computer Vision Nanodegree – Udacity

Deep Learning Nanodegree - Udacity

Natural Language Processing Nanodegree - Udacity

Python Design Patterns - Linkedin Learning

Full Stack Web Development with Flask - Linkedin Learning

Pandas foundations - Datacamp

Software Engineering for Data Scientists in Python - Datacamp

Multivariable calculus - Khan Academy

Statistics and Probability - Khan Academy

Linear Algebra by Gilbert Strang - MIT Lecture Series

Conda Essentials - Datacamp

EXTRA ACTIVITIES

Hackathon participant, IT Meet 2019

Coding competition winner, IT Meet 2019

Hardware competition participant, IT Meet 2018

Software competition participant, IT Meet 2018

Project demonstration participant, IT Meet 2018

Yomari Code camp participant, IT Meet 2017

KUCC Football tournament participant

Smart City Workshop 2017 Volunteer at IT Park

Project demonstration volunteer, IT Meet 2017