

Aayush Poudel

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EDUCATION

University of Rochester

B.Sc. Computer Science, B.A. Anthropology (Minor in Mathematics)

- GPA 3.84/4.00. Dean's list all semesters. Dean's Scholarship (\$15,000/yr.) Rochester National Grant (\$57,400/yr.)

Rochester, NY

Anticipated May 2023

WORK EXPERIENCE

University of Rochester Laboratory for Laser Energetics

Software Engineer

Rochester, NY

January 2021 – Present

- Built simulation & tests for Cross Beam Energy Transfer in C++/CUDA and Open MP on two NVidia GV100s.
- Developed simulation for a particle pusher using C++/CUDA and visualizations in Python.
- Refactored the ray tracing system that sped up development by 10x and improved result accuracy.

AURA

Co-Founder, Developer & Project Manager

Rochester, NY

January 2021 – Present

- Built a research portfolio management and application portal for undergraduates utilizing Python Flask and MongoDB to assist ~50 professors and ~250 students in filling research positions at University of Rochester.
- Conducted market and user research to define product scope, features and required technologies
- Raised and acquired a budget of \$6000, designed, and defined features then successfully hired 3 developers.
- Delivered the product to the University of Rochester and accelerated administrative process by ~36 hours/week

University of Rochester Medical Center, [Burack Lab](#) & [Portman Lab](#)

Research Assistant for Data Analysis & Image Science

Rochester, NY

February 2020 – January 2021

- Built a data analysis pipeline and visualizations using Python & R to produce data for hypothesis testing.
- Implemented a parallelized solution using Snakemake to increase throughput using computing clusters by 20x.
- Performed locomotive behavior analysis on a nematode by extracting movement data from 2 TB image sequences using GIMP, MATLAB, to predict behavior on preset assays.
- Improved efficiency of the legacy behavior prediction system by 6x by removing video generation bottlenecks.

Artificial Intelligence for Development Nepal

Community Leader

Kathmandu, Nepal

February 2018 – August 2019

- Orchestrated Artificial Intelligence education via workshops for 200+ undergraduates in 5 different colleges
- Mentored 4 teams at [Nepal's biggest AI exhibition](#) and connected teams to industry experts.
- Partnered with [Fusemachines](#) to mentor workshops for various core programming competencies and Machine Learning concepts for new graduates joining the AI Fellowship program for a cohort of 60+ students.

CAMPUS LEADERSHIP

University of Rochester, RocLab

Founder and Co-director

Rochester, NY

August 2020 – Present

- Founded a student organization for student-led software projects with agile development methodology.
- Facilitated a team for the rebuilding of the research job board for the Office of Undergraduate Research and another team for the creation of a data dashboard for the Optics Department.
- Employed 6 students with pay with a total budget of \$11,000 for one semester.

University of Rochester Tutoring Center

Data Structures and Algorithm TA, Tutor for CS and Math (20+ regular students)

Rochester, NY

January 2021 – Present

PROJECTS

- [AcousticToElectric](#) — A neural-network based transducer for guitar using VAE for proof-of-concept.
- [Studo](#) — A crowd-sourced shared calendar for college classes built with React.js, Express.js, Postgres.
- [SnapShot. DandyHacks 2019](#) (3rd Prize) — A text-based app with a Python, MongoDB backend deployed on GCP.
- [WholesomeBot](#) — A Bidirectional LSTM Text Generator for uplifting texts.
- [Concerned Astronaut](#) — A side-scrolling pixel platform game written in Unity (C#).
- [OpenSessions](#) — A course for Machine Learning fundamentals in Python using Tensorflow and other libraries.

SKILLS

- Python, Java, C++, C, C# (Unity), MySQL, Postgres, MATLAB, R, Lisp, Windows/Linux shell, OCaml, Databases, Machine Learning, Game Development, Git, Angular, Systems, CUDA, Tensorflow, Open MPI.
- Fluent in English, Hindi, Nepali. Basic skills in German.