

AADIM NEPAL

+971 504312760 ◇ aadim.nepal@nyu.edu

EDUCATION

New York University Abu Dhabi

Bachelor's degree, Mathematics and Computer Science

2022–2026

Major GPA: **3.95**, cGPA:**3.86**

Relevant Coursework: Honors Analysis, Linear and Non-Linear Optimization, Deep Learning (graduate), Foundations of Machine Learning (graduate), Information Theory for Deep Learning, Graph Machine Learning, Stochastic Processes

EXPERIENCE

The Deep Learning Lab

Research Assistant, New York University Abu Dhabi

January 2025 – Present

Machine Learning

- Supervisor: Prof. Keith Ross, Ravid Shwartz-Ziv

- Led a project on LLM Interpretability, analyzing layer importance in large language models for mathematical reasoning.
- Contributed to two projects on LLM Reasoning, investigating reinforcement learning, distillation methods, and warm-up strategies for enhanced reasoning in resource-constrained settings.

The Clinical AI Lab

Research Assistant, New York University Abu Dhabi

September 2023 – August 2024

Machine Learning

- Supervisor: Prof. Farah E. Shamout

- Developed a multi-modal AI system integrating OCT scans with patient EHR data from Cleveland Clinic Abu Dhabi to predict stroke risk, designing and implementing the AI pipeline for OCT scan analysis.

The Center for Cosmology and Particle Physics

Research Assistant, New York University

June 2023 – August 2023

Computational Physics

- Supervisors: Prof. Ingyin Zaw, Prof. Joseph D. Gelfand

- Processed images from 12 VLBA telescopes using CASA on Linux to study radio emissions of super-massive black holes, performing statistical and visual analysis with Python.

Alpha Agro Pvt. Ltd.

Research Intern

May 2020 – May 2022

Alpha Agro R&D Team

- Supervisor: Dr. Pramod Aryal

- Conducted in-silico Molecular Docking and ADME analysis, predicting and inducing mutations in target proteins using PyMOL to test lead compound efficacy.

PUBLICATIONS

- A. Nepal**, S. Shrestha, A. Shrestha, M. Kim, K. Ross. Layer Importance for Mathematical Reasoning is Forged in Pre-Training and Invariant after Post-Training. *Accepted to EMNLP BlackboxNLP , NeurIPS MATH-AI Workshop 2025*. arXiv:2506.22638.
- M. Kim, A. Shrestha, S. Shrestha, **A. Nepal**, K. Ross. Reinforcement Learning vs. Distillation: Understanding Accuracy and Capability in LLM Reasoning. *Accepted to NeurIPS MATH-AI Workshop 2025*. arXiv:2505.14216.

- S. Shrestha, M. Kim, **A. Nepal**, A. Shrestha, K. Ross. Warm Up Before You Train: Unlocking General Reasoning in Resource-Constrained Settings. *Accepted to EMNLP 2025 Main Conference.* arXiv:2505.13718.
- S. Shurraab, **A. Nepal**, T. J. John, N. G. Ghazi, B. Piechowski-Jozwiak, et al. Multimodal Deep Learning for Stroke Prediction and Detection using Retinal Imaging and Clinical Data. *Accepted to EMBC 2025.*

AWARDS AND RECOGNITIONS

- **Yann LeCun's Graduate Deep Learning Competition** 2024
Achieved 5th place as an undergraduate in a competition primarily for MS and PhD students, using JEPA on grid images to predict the movement of snakes.
- **Slush'D Hackathon, NYUAD** 2024
Secured Top 10 position in a competitive hackathon focused on innovative solutions.
- **International Genetically Engineered Machines (iGEM)** 2023
Earned Silver Medal as part of the NYUAD iGEM team.
- **Fusemachines AI Fellowship** 2022
Selected as an Artificial Intelligence Fellow for outstanding potential in AI research.
- **International Biology Olympiad (IBO)** 2020
Achieved Top 4 nationally in the Nepal National Biology Olympiad, earning selection to represent Nepal in the IBO.
- **World Schools Debating Championship (WSDC)** 2020
Member of the Nepal National Debate Team, breaking the national record for being closest to the breaks.

EXTRACURRICULAR ACTIVITIES

- **NYUAD Swim Team** 2022–Present
Completed Beginners and Intermediate Swimming, and active member of the NYUAD Swim Team
- **NYUAD Tennis Club, Advanced Tennis Team** 2023–Present
Active member of the Advanced Tennis Team, participating in regular training sessions.
- **Nepali Student Association (NSA), Senior Member** 2025–Present
Contribute to organizing cultural events and fostering community engagement, representing Nepali heritage at NYUAD.
- **Mentor, Student Research Council Nepal (SRCN)** 2022–2023
Selected and mentored five high school students from Nepal on a computational drug validation project, targeting the PBP2 protein with penicillin as a lead compound.
- **Travel** 2025–Present
Passionate about travel and historical adventures, having explored 25 countries, with notable visits to Tromsø, Norway; Auschwitz, Poland; Kronborg Castle, Denmark; Angkor Wat, Cambodia and Buddha's Trail in Bodh Gaya, India, among others.