Ashish Acharya — आशीष आचार्य

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EDUCATION

Ph.D. in Computer Science — Fall 2025 – Present
Old Dominion University (Norfolk, VA, USA)
Research focus: machine learning and explainable AI for biomedical research, with an emphasis on biological foundation models, single-cell transcriptomics, and trustworthy machine learning workflows.

B.E. in Computer Engineering — 2019 – 2024
Tribhuvan University, Paschimanchal Campus (Pokhara, Nepal)
Distinction (82.76%)
Ranked top 3 of 48 students.

RESEARCH EXPERIENCE

Graduate Research Assistant — Aug. 2025 – Present
Old Dominion University (Norfolk, VA), Department of Computer Science

- Conduct research at the intersection of machine learning, computational biology, and explainable AI, evaluating biological foundation models for single-cell data, cross-cohort generalization, donor-level disease prediction, and biologically grounded interpretation. Develop trustworthy and reproducible agentic workflows for scientific data analysis.

Selected Undergraduate Research Project — Jul 2023 – Feb 2024
Video-Based Vehicle Classification (Nepal)

- Evaluated YOLO-v8 for traffic surveillance under varying conditions (day/night/rain).
- Classified CCTV footage frames based on environmental factors.
- Analyzed accuracy across traffic densities and developed insights.
- Built a model for efficient traffic monitoring.

PUBLICATIONS

- Acharya, A., Al Amin, A., and Qin, H. "Structure Before Intelligence: Gating What Agentic Scientific Workflows Release." arXiv preprint arXiv:2610.19507, 2026. [arXiv]
- Acharya, A., Xiang, S., Patel, N., Feng, Y., and Qin, H. "Evaluating Cross-Cohort Transfer and Model Explanations in a Fine-Tuned Single-Cell Foundation Model for Alzheimer's Disease." Accepted for presentation at the AAAI 2026 Fall Symposium Series, AT-AI4H-NW track, 2026.

WORK EXPERIENCE

Graduate Teaching Assistant — Aug. 2025 – Present
Old Dominion University (Norfolk, VA), Department of Computer Science

- Hold office hours, grade assignments, and evaluate examinations.
- Courses include CS 390 (Introduction to Theoretical Computer Science) and CS 312 (Internet Concepts).

Backend Developer — Apr 2024 – Dec 2024
Skybase Innovation (Pokhara, Nepal)

- Sole developer for backend of **CUPID** (dating app) – database design, queries optimization.

- **GearChecker** (Norway project): Laravel backend, Livewire, MySQL, many-to-many relations.
- Contributed to GharDurbar, Sky Gyan, Talent (with Elasticsearch), and Pokhara College CMS.

Backend PHP (Laravel) Intern Nov 2023 – Dec 2023
TukiSoft Pvt. Ltd. (Pokhara, Nepal)

- Built a solo project: Ad management system.
- Worked on LMS, consultancy websites, e-learning systems with payment integrations.

COURSEWORK AND SKILLS

Computer science: Research Methods, Large Language Model Architectures and Applications, Advanced Databases, Algorithms and Data Structures, Introduction to Artificial Intelligence, Introduction to Data Science and Analytics.

Mathematics and statistics: Calculus I–III, Linear Algebra, Probability and Statistics, Applied Mathematics, Numerical Methods, Discrete Structures.

Languages and tools: Python (NumPy, Pandas, PyTorch, TensorFlow), SQL, C, C++, PHP, JavaScript, Laravel, Git, LaTeX.

HONORS AND AWARDS

Winner – Skybase Innovation Hackathon 2024
Full Government Scholarship – B.E. Computer Engineering 2019 – 2024