Suryash Malviya

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Education

Ithaca College Ithaca, NY

BS – Double Major in Applied Physics & Computer Science w/ Mathematics Minor (GPA: 3.49/4.00)Aug 2022 – Present

- Coursework: Machine Learning, Data Structures & Algorithms, GPU Acceleration Research, Quantum Mechanics, Classical Mechanics

Cornell University Ithaca, NY

Visiting Student *Aug 2023 – Present*

- Coursework: Differential Equations for Engineers, Linear Algebra, Digital Logic & Computer Organization, Statistics

Experience

Unity Developer June 2024 – Present

Cornell University's Center for Teaching Innovation *Ithaca, NY*

- Developed physics-based XR simulations in Unity3D and C# for electromagnetism courses, used by 1,000+ students annually.
- Designed data-driven systems and pipelines for simulation logic, improving performance and enabling scalable content generation.
- Led a 5+ member XR development team using Agile workflows, Git-based version control, and iterative testing practices.

Senior Makerspace Technology Specialist Aug 2022 – Present

Ithaca College Information Technology Department *Ithaca, NY*

- Supported 4,500+ users annually in XR lab operations, digital fabrication, and technical systems troubleshooting.
- Trained users on technical workflows including VR systems, 3D modeling, and software-driven fabrication pipelines.
- Guided development of interactive systems using Unity XR Toolkit and CAD tools, emphasizing system integration and usability.

Research and Teaching Assistant Aug 2022 – Present

Ithaca College Physics Department *Ithaca, NY*

- Built and experimented with LLM-based pipelines using HuggingFace, OpenAI API, and LLaMA models for content understanding and structured information extraction.
- Implemented retrieval-augmented generation (RAG) workflows using embeddings and vector search to improve query relevance.
- **Dana Summer Scholar 2023:** Conducted computational astrophotography research using CCD imaging and data-processing pipelines.
- Worked on data-driven research including atmospheric data analysis and 3D visualization for educational systems.

Publications and Current Research

Co-authored publication in the **Journal of Computing Sciences in Colleges (JCSC)** on dynamic programming and algorithm optimization.

Authoring physics education research on a Unity-based "Physics Sandbox" plugin; preparing for publication and conference presentation (e.g., CCSCNE, Whalen Symposium).

Researching machine learning and quantum computing integration and developing LLM-based systems using knowledge graphs, fine-tuning, and retrieval-augmented generation (RAG).

Relevant Skills

Machine Learning & LLMs: Python, PyTorch, TensorFlow, HuggingFace, OpenAI API, LLaMA, Fine-tuning, RAG

Data & Pipelines: Data Processing, Embeddings, Vector Search (FAISS), Data Analysis, Model Evaluation

Programming: Python, C#, Java, C++, R, CUDA, Git

Systems & Tools: APIs, Git, Linux, Agile Development

XR & Interactive Systems: Unity3D, XR Interaction Toolkit, Oculus SDK

Quantum Computing: Qiskit, Quantum Algorithms, Quantum Machine Learning