

# Ishaan Gupta

College Park, MD | 240-936-4784 | ishaang@terpmail.umd.edu | [Linkedin](#) | [Website](#)

## Education

---

**University of Maryland, College Park, MD**

Expected May 2026

*Computer Science, Bachelor of Science (GPA: 3.8)*

Dean's List: Fall 2022, Spring 2023, Fall 2023, Spring 2024, Spring 2025, Fall 2025

**Coursework:** Machine Learning, Advanced Data Structures, Data Science, Computer Graphics, Network Design, Deep Learning

## Professional Experience

---

**Inzone** | *Software Engineer & Designer*

May 2025 - Present

- Collaborated in building **InZone**, a personalized AI social app with **7,500+ downloads**, building a cross-platform Flutter UI/UX supporting thousands of concurrent sessions.
- Delivered and optimized a **3D avatar asset pipeline** (glTF/GLB, mobile performance tuning) and engineered scalable feed experiences by combining **Unity real-time rendering** with pre-rendered loops.
- Integrated **GPT-4 via OpenAI API** with **LangChain**-based orchestration and custom prompt engineering pipelines, increasing user engagement by **30%+**, and implemented **Firestore** with advanced queries to manage real-time data sync for **7,500+ users**.

**Department of Computer Science** | *Teaching Assistant (CMSC 351 & CMSC 425)*

Feb 2025 - Present

- Supported **300+** students across 2 upper-level CS courses, grading **500+** assignments and projects involving advanced data structures, graph algorithms, and scalable gameplay systems.
- Led **50+** office hours and review sessions covering algorithm analysis, graph/sorting techniques (CMSC 351) and **Unity** architecture, gameplay systems, and debugging (CMSC 425).

**OMSE, University of Maryland** | *Tutor*

Jun 2023 - Present

- Delivering tutoring sessions for MATH120, MATH140, MATH141, PHYS121, CMSC131, CMSC132.
- Supported over **150** student hours to enhance understanding and performance.

**University of Maryland** | *Research Assistant*

Feb 2025 - Sep 2025

- Conducted research on applying **Large Language Models (LLMs)** to financial analysis and automated question answering.
- Developed custom **Retrieval-Augmented Generation (RAG)** pipelines for CFA-style question answering and financial analytics.
- Fine-tuned **Qwen2.5-1.5B** using **LoRA** parameter-efficient training for financial **NLP** tasks.
- Improved accuracy from **63%** to **77%** on CFA benchmarks (**+18-22%**) and **85%+** F1 score on Financial Phrasebank classification.

**Ernst & Young** | *Data Science Intern*

Jun 2023 - Jul 2023

- Evaluated clients' strategies and capital agendas as part of the Strategy and Transaction team & Delivered an advanced Machine learning model that had an accuracy of **93%** for logistic regression.
- Conducted feature engineering, exploratory data analysis (EDA), and model validation on large-scale financial datasets.
- Contributed insights to the marketing team to target high-conversion prospects, leading to a **56%** increase in borrower acquisition.

## Projects

---

**AI-Classification:** Built a **KNN** model with **SMOTE** balancing on a dataset of **1,000+** patient biomechanics records ~ **94%** accuracy.

**B-Tree:** Implemented an order-**m**  $\geq 3$  B-Tree in Python; custom rotations/splits/merges for balanced insert/delete/search operations.

**Memory Dive (VR & PC):** Designed a **cross-platform** co-op murder-mystery in **Unity**. **Photon Fusion + XR Toolkit** for multiplayer.

**Dhammapada:** Created an immersive first-person dungeon crawler in **Unity** with **Blender** enemies, traps, bosses, and adaptive AI.

**RPG Adventure:** Built third-person action adventure in **Unreal (Blueprint; C++)** with UI, combat, NPCs, and desert/oasis world.

**MicroCaml Implementation:** Engineered a dynamically typed **OCaml** subset with lexer, parser, and interpreter for **AST** execution.

**CFC (Ongoing):** Developing an RTS game in **Unity** with base-building, multi-resource economy, taking inspiration from RTS games.

## Skills

---

**Languages:** Python, Java, C, C#, C++, OCaml, Rust, Assembly MIPS, JavaScript, HTML, CSS, React, TypeScript, PHP, SQL.

**ML/AI:** PyTorch, Transformers, Hugging Face, LoRA fine-tuning, RAG pipelines, scikit-learn, TensorFlow.

**Engines & Game Tech:** Unity, Unreal Engine (C++ & Blueprints), Photon Fusion, XR Interaction Toolkit, Finite State Machine.

**Tools & Frameworks:** React, Next.js, Node.js, Tailwind, WebGL, Flask, Vercel. Pandas, NumPy, Matplotlib, Seaborn, AWS, MongoDB, GCP, Linux, LangChain, Git, SourceTree, Kubernetes.

**Others:** Advanced Data Structures and Algorithms, OOP Programming, Rest APIs, Unit Testing, Network Design, NLP, Web Development.