

Ishaan Gupta

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Education

University of Maryland, College Park, MD

Graduated May 2026

Computer Science, Bachelor of Science (GPA: 3.8) | Dean's List : 7 semesters (Fall 2022 - Spring 2026)

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

Professional Experience

Inzone.ai | Software Engineer

May 2025 - May 2026

- Architected the backend system for InZone.ai, a personalized AI social app (**7,500+ downloads**), designing scalable service layers, **API** routing, and data models to support real time social features across a cross-platform **Flutter** client.
- Designed and implemented a **Firestore**-backed data architecture with compound queries, batched writes, and real-time listeners, enabling low-latency feed delivery and concurrent data sync at scale.
- Integrated **GPT-4** via **OpenAI API** into the in-app chat system, building a **LangChain** based orchestration layer with custom prompt pipelines to power **context-aware conversational AI**.
- Delivered a **3D avatar** asset pipeline (**glTF/GLB** ingestion, compression, mobile performance tuning), coordinating between **Unity** real-time rendering and pre-rendered loops to optimize load times and memory usage on mobile devices.

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

Feb 2025 - May 2026

- Taught and graded 300+ students in **Algorithms** (CMSC 351) and **Game Programming** (CMSC 425), gave technical feedback on graph algorithm implementations, complexity analysis, and Unity gameplay systems, which helped improve assignment quality and student understandings.
- 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 - May 2026

- Tutored **150+** hours across introductory CS, calculus, and physics courses, developing targeted problem solving frameworks that improved student exam performance.

University of Maryland | Research Assistant

Feb 2025 - Sep 2025

- Designed **LLM** based pipelines for automated financial analysis and CFA-style question answering under faculty supervision
- 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

- Developed a **logistic regression model** achieving **93%** accuracy on client acquisition prediction, outperforming the team's prior heuristic-based approach by **15+** percentage points.
- 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 an 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** ≥ 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#, Rust, OCaml, TypeScript, JavaScript, SQL, Assembly (MIPS)

Web & Cloud: React, Next.js, Node.js, Flask, Tailwind, WebGL, AWS, GCP, MongoDB, Firestore, Kubernetes, Docker

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

Engines & Game Tech: Unity, Unreal Engine (C++ & Blueprints), Photon Fusion, XR Interaction Toolkit, Blender

Tools & Frameworks: Git, SourceTree, Linux, CI/CD, Vercel, Seaborn, Matplotlib, Numpy, RestAPIs, LangChain