Smaran Mishra

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EDUCATION

Georgia Institute of Technology **Aug. 2020 - Present**
MS Computer Science *Atlanta, GA*

- **GPA: 3.7/4.0;** Specialization in Computing Systems

Master's Projects: Unsupervised Learning Algorithms for Legged Locomotion, Verifying Milli-bottleneck Theory of Performance Bugs
BS Computer Science *Atlanta, GA*

- **GPA: 3.6/4.0**; Highest Honors. Threads in Systems and Architecture, Media
- Minor in Physics, Teaching assistant for Intro to Media Computation (CS1315)
- Faculty Honors (1 semester), Dean's List (7 semesters)

Relevant coursework: Operating Systems, Real-Time Systems, Generative AI, High Performance Computer Architecture

EXPERIENCE

Manulife/John Hancock **May. 2025 – Dec. 2025**
Artificial Intelligence Intern *Boston, MA*

- Analyzed dataset improving automation throughput on 50k cases by 4,000+ cases/year with 90%+ accuracy
- Optimized NLP processing pipeline with parallel LLM instances, improving throughput (Python, nltk)
- Designed, implemented and shipped a web application to demonstrate ontology tree results (TypeScript, React)

High Performance Architecture Lab **May. 2022 – May. 2024**
Undergraduate Researcher *Atlanta, GA*

- Identified and demonstrated memory overflow vulnerabilities in CUDA architecture, proposing compile-time address sanitization solutions with LLVM that minimize runtime impact
- Conducted performance analysis of CUDA kernels across various workloads and GPU architectures
- Validated a cybersecurity attack via power side-channels on GPUs and proposed countermeasures.

Qualcomm **May. 2023 – Aug. 2023**
Software Engineering Intern *San Diego, CA*

- Worked on iGPU Graphics TDev team to modernize core framework for Snapdragon test applications
- Designed and implemented a new config schema for tests; wrote scripts, docs and cross-platform build files.

Medford Group **Jan. 2021 – May. 2021**
Undergraduate Researcher *Atlanta, GA*

- Calculated energy levels for different molecules using tools like Anaconda, Jupyter and AMPTorch

PROJECTS

Dunjin *Godot 4 multiplayer fighting game*

- Solo-dev'd a Smash-inspired platform fighter with a 2.5D shaded pixel-art graphics pipeline, maintaining 60fps
- Wrote additional tooling in Lua for Aseprite to batch edit layers across long animations; on a 242-frame test reduced manual edits to ~33 frames (~86% reduction) cutting iteration time to minutes.

Roguelike Agent *Web-based RPG Engine*

- Designed a roguelike engine with a data-driven pipeline and event-bus architecture for decoupled systems.

Other projects: Kyuna.ai (LLM-backed free-response quiz website)

SKILLS

- **Languages: C++ (11/14/17), CUDA, C, Python, JavaScript, TypeScript, Java, GLSL**
- **Systems: Benchmarking, Memory Profiling, Multithreading, Parallelization, End-to-end testing**
- **Frameworks: PyTorch, nltk, NumPy, pandas, Node, Express, FastAPI, React, Next.js, OpenGL**
- **DevOps & Tools: NVBit, RuBBoS, Azure, Docker, Git, Linux, CMake, Perforce, Vim**

LEADERSHIP

WreckCon **Jun. 2022 – May. 2024**
President, Lead Organizer *Atlanta, GA*

- Led 10-person team to host a 1200-attendee Georgia Tech culture convention; managed $30k budget under cost