Samuel James Baker IV

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EDUCATION

University of Virginia, School of Engineering and Applied Science   **May 2027**
Bachelor of Science in Computer Science, Engineering Business Minor
Charlottesville, VA
GPA: 3.5/4.0

Rappahannock Community College   **August 2019 – May 2023**
Associate Arts and Science, Summa Cum Laude
Warsaw, VA
GPA: 4.0/4.0

TECHNICAL SKILLS

Languages: C/C++, Python, Java, JavaScript/TypeScript, C#, Rust, SQL
Systems/Graphics: OpenGL, SDL3, Linux, Git
Web/Backend: Node.js, Express, MongoDB
ML/Tooling: PyTorch, TensorFlow, OpenCV, Hugging Face, Ollama

PROJECTS

Agentic AI RPG Arbiter • Charlottesville, VA   **Aug 2025 - Present**

- Prototyped agentic NPC controller integrating Hugging Face/Mistral; structured planning + action loop for in-game tasks; instrumented logs to evaluate success across scenarios.
- Wrapped model I/O utilities to swap local models and adjust tokenization settings.

Homelabbing + Local LLM Finetuning • Charlottesville, VA   **June 2025**

- Ran local experiments with Mistral/Ollama; explored lightweight finetunes and prompt-eval harnesses; compared latency/quality trade-offs on consumer hardware.

Entity Component System Game Engine • Charlottesville, VA   **Jan 2025**

- Designed ECS architecture with rendering, input, and resource systems; emphasized cache-friendly data layout and real-time debugging.
- Implemented renderer + asset pipeline; reduced draw overhead via batching and minimal-dependency design.
- Built developer tooling (live reload/debug UI) to speed iteration and isolate perf regressions.

Eggs by the Dozen • University of Virginia   **Apr 2024**

- Co-built image recognition pipeline to classify parasite eggs in microscopy images; documented steps for reproducibility and presented at UVA CS symposium.
- Structured dataset handling and evaluation code to enable consistent comparisons across runs.

Mycorrhizal Fungi Inoculation in Glycine max • Chesapeake Bay Governor's School Symposium   **Feb 2023**

- Investigated the impact of mycorrhizal fungi on soybean water stress and growth. Designed experiments, analyzed physiological responses, and presented conclusions at the VCU-hosted regional symposium.