

Artie Humphreys

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EDUCATION

University of Virginia

August 2022—May 2026

Bachelor's, Computer Science, Mathematics; GPA: 3.86/4.00

Charlottesville, VA

- **Coursework:** Advanced Algorithms, Computer Architecture, Algorithmic Economics, Number Theory
- **Activities & Awards:** Computer Network & Security Club, ICPC, Eagle Scout, UVA Men's Basketball

EXPERIENCE

BlackEdge Capital

October 2025—Present

Incoming Quantitative Software Engineer

Chicago, IL

Walmart Global Tech

June 2025—August 2025

Software Engineer II Intern

Bentonville, AR

- Designed and built an automated knowledge ingestion pipeline for Walmart's internal RAG Q&A system, reducing manual data prep time by 80%
- Re-architected the core networking library with HTTP/2 multiplexed pooling, TLS session reuse, and adaptive timeouts, cutting p95 service latency by 38% and retry traffic by 70% across internal services

Biocore LLC

May 2024—August 2024

Computer Vision Intern

Charlottesville, VA

- Built an automated 3D multi-view animation workflow for NBA injury analysis using PyTorch and OpenCV, delivering a 10x throughput increase and enabling broader incident coverage; featured at NBA Tech Expo 2024
- Built a full-stack tool (React/Tailwind, Go/Python) for injury analytics and reduced query latency by 50% at the tens-of-thousands record scale, accelerating analyst workflows

Sitscape

May 2023—August 2023

Software Engineer Intern

Vienna, VA

- Delivered sub-1s, source-linked PDF Q&A (Falcon-7B + MiniLM + Milvus), replacing manual search across thousands of documents
- Replaced fuzzy string search with hybrid keyword+semantic search and re-ranking, improving top-1 accuracy by 18%

University of Virginia Men's Basketball Team

September 2022—March 2026

Student Manager

Charlottesville, VA

- Support daily team operations (25 hrs/week): organize practices, coordinate team travel, manage team and player data, and oversee logistics

PROJECTS

theCourseForum | Django, HTML/CSS, PostgreSQL, EC2

September 2023—Present

VP of Product Engineering

- Replaced Elasticsearch with trigram/reverse-index search, saving \$150/month in infrastructure costs
- Built typeahead autocomplete over 40k+ records with sub-100ms latency, serving 20k+ student users

Particle Simulator | C++, SFML, OpenGL

March 2025—February 2026

- Built a real-time C++ physics simulator rendering 15k+ particles using Verlet integration and SFML
- Optimized memory accesses and parallelized collision detection via custom thread pool, sustaining 60 FPS

Asyncio Clone | Python, C, Pytest

July 2025—August 2025

- Re-implemented CPython's asyncio core event loop and task scheduler in C and Python
- Achieves 2.2–3.6x throughput over CPython's stdlib asyncio on mixed workloads via a priority-heap scheduler

LaTeX Compiler | C++, Flex, Bison

January 2025—February 2025

- Built a LaTeX-to-PDF compiler in C++ with a Flex lexer and Bison LALR parser from scratch
- Supports nested environments, math mode, and macro expansion; compiles 25% faster on average than Overleaf

TECHNICAL SKILLS

- **Languages:** C, C++, Java, JavaScript, TypeScript, Python, Lua, SQL, Go, HTML/CSS, Bash
- **Frameworks/ Technologies:** React, Next.js, Django, Git, Docker, AWS, MongoDB, PyTorch, Boost