Blake Shea

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Education

Clark University Aug 2022 – May 2026
B.A. in Computer Science, Interactive Media (3.63 GPA) Worcester, MA

Experience

Software Engineering Co-op Jul 2025 – Dec 2025
State Street Corporation Burlington, MA

- Diagnosed and resolved critical production bugs in C# and .NET trading systems, preventing downtime and functionality loss for 30+ client firms.
- Migrated legacy C# WinForms applications to React thin clients with cached order data, reducing UI latency by 40% while preserving full data integrity.
- Developed automated unit and integration tests for 8 key modules, reducing recurring production defects and streamlining deployment.

AR Development Intern Apr 2025 – Jul 2025
White Snake Projects Boston, MA

- Designed an AR walking tour MVP highlighting indigenous history in Boston using 3D scans and low-code prototyping tools
- Co-authored a partnership and grant proposal directed to Massachusetts indigenous groups, the City of Boston, and local AR companies, securing over $68k in funding.

Software Engineering Intern Aug 2024 – Apr 2025
Avilaar, Inc. Worcester, MA

- Developed a mobile AR learning companion app using Python and Unreal Engine, integrating GPT4o and ElevenLabs for real-time context-aware interactions.
- Optimized AI chat system with retrieval-augmented generation (RAG), FastAPI, and Docker on AWS EC2, reducing execution time to 10% of the original prototype.

C# and VR Instructor May 2024 - Nov 2024
ID TECH Cambridge, MA

- Taught C# and Unity fundamentals to over 100 students, guiding creation of personalized VR applications targeted to the Meta Quest.
- Drafted 3 interactive VR demos to teach physics, programming, and UX principles, enhancing student hands-on skills in immersive environments.

Projects

Mixed Reality Headset Prototype | Python, OpenCV, Raspberry Pi Jan 2025 – May 2025

- Engineered a mixed-reality headset using RaspberryPi, webcam, and LCD monitor for 30 FPS wireless overlay.
- Implemented UDP networking, achieving 13 times the frame rate by offloading compute to remote server.
- Architected a YOLO-based human figure detection system using a Python/OpenCV pipeline to anonymize actors in real-time, reaching over 90% detection accuracy.
- Reduced stutter by leveraging threading and 6 frame detection buffer to decouple object detection and output frame generation.

Inventory Management Web App | Python, Django, Docker, PostgreSQL Jan 2024 – May 2024

- Designed web app using Django and HTML to manage character inventories in a local 8-player Dungeons and Dragons campaign session.
- Integrated PostgreSQL for persistent CRUD operations across 100+ unique items.

Skills

Languages: Python, C#, Java, SQL

Frameworks: Django, ASP.NET, FastAPI, Flask, Unity

Databases: PostgreSQL, MySQL, SQLServer, MongoDB

DevOps/Tools: Docker, Git, Jira, Confluence