Joshua Hernandez

Incoming SWE Intern @ BlackRock Summer 2026

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Work Experience

Wayhome **August 2025 – December 2025**

Software Engineering Intern *Austin, TX*

- Cleaned and standardized **50,000+ property location records** by building **Python/Pandas pipeline** to cross-reference Zillow, Census, and Nominatim geospatial data, then migrated validated data from standalone repository into **Rails app with PostGIS**, eliminating import failures in staging and production
- Improved response times by **35%** by identifying N+1 queries, adding database indexes, implementing **Redis caching**, and refactoring high-traffic endpoints serving 100+ daily active users
- Built **Stripe subscription billing system** with idempotency keys and webhook retry logic to prevent duplicate charges, supporting tiered pricing for property owners and renters
- Reduced support tickets by **25%** by developing **AI chatbot** using MCP and WebSockets to answer real-time property availability questions, processing 500+ inquiries in first month of deployment

Projects

Real-Time Video Communication Platform | *GitHub* **TypeScript | React | Node.js | WebRTC | Socket.IO**

- Built peer-to-peer video conferencing application supporting **20+ simultaneous participants** per room with custom **WebRTC** signaling server, achieving **94% successful connection** rate across 1,000+ test sessions
- Decreased reconnection time by **60%** (from 5s to 2s average) by implementing automated peer recovery system that detects network interruptions through connection monitoring and re-establishes connections automatically
- Enabled seamless multi-user collaboration by integrating **Socket.IO** event system with React state management to deliver screen sharing, synchronized text chat, and real-time presence indicators

Full-Stack Social Networking Platform | *GitHub* **TypeScript | React | Node.js | PostgreSQL | Docker | AWS**

- Engineered social platform with real-time feed updates, direct messaging, and content sharing capabilities, load-tested to handle **500 concurrent users** on **AWS EC2**
- Implemented secure authentication system with **JWT tokens**, bcrypt password hashing, endpoint-specific rate limiting, and email verification workflow to protect user accounts and prevent abuse
- Achieved **zero deployment failures** over 50+ production releases by containerizing application with **Docker** multi-stage builds and establishing CI/CD pipeline that executes 50+ integration tests before each deployment

Automated Data Collection & Analytics System | *Live Dashboard* **C# | .NET | InfluxDB | Grafana**

- Built **C#/.NET plugin** downloaded by **100+ users** that reads game memory, exports data to CSV, and streams to self-hosted **InfluxDB** or QuestDB instances for tracking 300+ metrics including inventory, currency, achievements, and character stats
- Processed **80M+ data points monthly** in personal instance through batch write operations (1,000 points/batch) with exponential backoff retry logic and error logging to maintain **99.9% ingestion reliability**
- Created comprehensive **Grafana Cloud** dashboards with 50+ visualization panels for progress tracking, comparative analytics, and historical trends, enabling data-driven gameplay optimization

Game Enhancement Plugin Framework | *GitHub* **C# | .NET | PowerShell | GitHub Actions**

- Delivered **5 feature-rich game modification plugins** actively used by **100+ players**, implementing real-time memory access, custom UI overlays, and automation tooling using **C# reflection** and direct memory manipulation
- Automated plugin distribution by building **GitHub Actions** workflow that triggers on release, updates plugin manifest JSON in main repository, and runs daily checks to ensure version consistency across all published plugins

Education

Southern New Hampshire University **Expected Graduation: December 2026**

Bachelor of Science — Major Computer Science — Minor Software Engineering *Hooksett, New Hampshire*

- **GPA: 4.0**
- Courses: Applied Machine Learning, Operating Systems, Computer Architecture, Database Systems, Algorithms and Data Structures, Server and Client Development

Technical Skills

Languages: JavaScript, TypeScript, Python, C#, Java, C++, Ruby, SQL, HTML/CSS

Frameworks & Libraries: React, Node.js, Express.js, .NET, Ruby on Rails, Spring Boot, Socket.IO, WebRTC, Pandas

Databases & Tools: PostgreSQL, MongoDB, Redis, InfluxDB, Docker, Git, AWS (EC2, RDS), GitHub Actions, Grafana