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PROFESSIONAL SUMMARY

Senior Software Engineer with 8+ years of experience across game development, backend engineering, and developer tooling. Expert in **C#** and **Unity** with advanced **TypeScript** and **Node.js** skills. Proven track record building and shipping production systems on **AWS** and **Google Cloud**, from serverless REST APIs to real-time multiplayer platforms. Comfortable leading small engineering teams, owning features end-to-end, and adapting to any stack. Army veteran with a BS in Computer Science.

CORE COMPETENCIES

C# (Expert, 8+ years)

Unity (Expert)

TypeScript / Node.js (Advanced)

AWS Serverless

Google Cloud Platform

RESTful API Design

Docker & CI/CD

Team Leadership

WORK EXPERIENCE

Series Inc.

Aug 2024 - Present

Senior Software Engineer | Remote | series.inc

- Built a 3D generation backend pipeline used to generate 2D images of props, convert them into 3D models, and push through an optimization pass to create game-ready assets
- Wrote custom Docker containers for tools including Blender, Houdini, and a custom processing server used in the 3D generation pipeline, deployed on Kubernetes
- Wrote Docker Compose files to spin up and test the entire Rundot Platform end-to-end locally (App Client, App Server, Game Manager, Multiplayer Server)
- Created the Rundot CLI in C# used by all platform users to upload their games to the Rundot platform
- Migrated the Rundot Game SDK from injected JavaScript strings into its own independent TypeScript package published to NPM
- Implemented RPC-based communication in the Rundot Game SDK to allow communication between a game running in an iFrame and the host client app
- Built a real-time multiplayer server platform inspired by Cloudflare Durable Objects; developers extend a GameRoom class that gets bundled and uploaded to a Cloud Run server where it executes as authoritative server code
- Built on Firebase across the platform: Firebase Auth for user authentication, Firestore as the primary document database for user data, application state, and real-time synchronization via listeners
- Built a CDN backend based on Google Cloud Buckets for fast delivery of large asset bundles

Hit Factor Inc.

Jan 2022 - Aug 2024

Senior Software Engineer | Remote | hitfactor.com

- Worked on multiple game titles with one shipped title: Echoes of Empire
- Responsible for both server and client side development: AWS and Google Cloud for server side, Unity for the client side
- Led a small team of engineers to maintain a consistent codebase; responsible for code reviews and pull request merging
- Trained new hires and wrote documentation and workflows for different processes (deploying the server, running servers locally, etc.)
- Implemented complex systems, for example a Quad Tree + Culling + pooling system to handle a large grid-based world

Integration Innovation Inc. (i3)

Jun 2019 - Jan 2022

Senior Unity Developer | Huntsville, AL | i3-corps.com

- Led a small team of developers to maintain and rewrite a helicopter simulator created in Unity
- Communicated with the customer to convert their needs and wants into tasks on the Jira board
- Conducted technical interviews with new hires
- Helped teams set up proper git repositories that utilized git LFS
- Built Unity editor tools and systems to help streamline the process of developing new applications

iCUBE, Tennessee Tech University

Aug 2014 - Jun 2019

Junior Software Engineer | Cookeville, TN | tntech.edu/icube

- Joined part-time while completing a CS degree, transitioning to full-time after graduating in May 2018
- Served as primary developer across 10+ projects spanning Unity, Java, Python, PHP, Flutter/Dart, and JavaScript, adapting to whatever stack each project required
- Built and shipped applications for diverse clients including universities, public institutions (Tennessee Aquarium), and internal research teams
- Managed end-to-end delivery on multiple projects including submission and release on the iOS App Store and Google Play Store
- Communicated directly with clients such as professors and museum staff to translate requirements into project tasks
- Mentored incoming student developers and gave talks, classes, and tours to new interns and faculty
- Contributed to project scoping and estimation alongside faculty leads

TN Army National Guard

Oct 2011 - Oct 2019

Squad Leader / 91D Generator Mechanic, SGT (E-5) | Nashville, TN

- Managed and led a team of soldiers to perform military duties
- Responsible for all vehicles and equipment assigned to our unit
- Granted a **Secret security clearance**
- Participated and won multiple NCO of the Year boards at different levels

PROJECTS

Rundot CLI, Series Inc. Production

Native CLI tool used by all Rundot platform users to upload and manage their games.

C#, System.CommandLine, Spectre.Console, Native AOT, GitHub Actions, CI/CD | [GitHub](#)

Built with C# using System.CommandLine and Spectre.Console for a rich terminal experience

Compiled as Native AOT producing a small, self-contained native binary with no runtime dependency

Built a GitHub Actions matrix build pipeline to cross-compile the CLI for all platforms

Implemented full self-update support via GitHub Releases

Luxdraft Studio Live

Browser-based 2D top-down room designer for planning lighting layouts, built with web technologies and Claude Code.

TypeScript, Three.js | luxdraft.studio | [GitHub](#)

Implemented real-time illuminance calculation and heatmap visualization using lux values across a configurable grid

Supported multiple light fixture types (point, spot, linear, area) with customizable intensity, color temperature, and beam angle

Integrated IES photometric data file support for professional-grade fixture analysis

Implemented import/export of project files so users can save and resume their room designs

Echoes of Empire, Hit Factor Inc. Shipped

4x multiplayer PC game built on a large grid world with time-based upgrades and player interactions.

Unity, C#, TypeScript, AWS Lambda, DynamoDB, Redis, NodeJS | [Gala Games](#)

Migrated the entire backend from Elixir to TypeScript and set up serverless infrastructure in AWS (Cognito, API Gateway, Lambda, DynamoDB, SNS, ElastiCache)

Created a one-click deploy DevOps pipeline via GitHub Actions and the Serverless Framework

Implemented game server functions in TypeScript as Lambdas interacting with Redis and DynamoDB

Implemented a Quad Tree in Redis for fast area queries on a 2000x2000 world grid

Implemented a Quad Tree in Unity with culling + pooling to stream objects as the player's view moved

Halls of Greed, Hit Factor Inc. Steam Demo

3D looter, perma-death, extraction, fantasy, multiplayer game. Demo released on Steam; studio closed before full launch.

Unity, C#, Go, Google Cloud Run, Spanner, SQL, Steamworks | [Steam](#)

Implemented REST API server in Go hosted on Google Cloud Run

Set up and deployed Google Spanner Database; wrote SQL queries to retrieve and store player data

Integrated Steam Authentication via Steamworks Web API and Steam Auth Tickets on the server

Added invite friends and join game functionality for the party system via Steamworks.NET

Used the Steamworks Rich Presence API to display friends as a group in the Steam overlay

UH-72 Helicopter Simulator, Integration Innovation Inc.

Complete glass cockpit simulator of a UH-72 helicopter.

Unity, C#, UGUI, C++, Networking, SQL

Rebuilt the entirety of the project's UI from the old NGUI systems to the more modern UGUI

Implemented a snapshot system to replace portions of the old state saving system written in C++

Wrote a window management system that can launch external executables as separate standalone windows

Utilized a KdTree library to improve geographical-based searches

Chambered Fate 14th / 6,738

Weekend project for the 2023 GMTK game jam. Placed 14th out of 6,738 entries.

Unity, C# | [tch.io](#)

Created a save and replay system that records arbitrary keyframes to replay the player's actions

Implemented a small input abstraction layer for cross-platform controls

Created systems and prefabs to allow artists to quickly build out new levels visually in the editor

Sig Fig Tutor, iCUBE Published

Educational mobile app for practicing significant figure calculations, published on iOS and Android.

Unity, C#, UGUI, REST API | [Google Play](#)

Used Google Sheets REST API to fetch quiz questions over the network

Developed an event system to maintain separation of concerns between components

Applied the resource locator pattern as a substitute for dependency injection

VR Classroom, iCUBE

Networked VR classroom simulation with synchronized avatars and interactive student mechanics.

Unity, C#, UNET, VR

Developed a networked virtual reality classroom simulation in Unity

Utilized UNET to implement a client/server architecture

Used networked animators and transforms to synchronize character animations, head, and hand positions

Wrote remote procedure calls allowing students to trigger in-simulation misbehaviors

Secret Reef App, iCUBE Published

Interactive kiosk application built for the Tennessee Aquarium in Chattanooga, published on iOS.

Unity, C#, UGUI | [App Store](#)

Built an object pooling system to maintain performance on older generation devices

Integrated Google Analytics APIs and utilized scriptable objects for easy data entry

Tweeting Eel, iCUBE

Automated Twitter bot that reads incoming voltages from external hardware and posts data to social media.

Python, Linux, Bash, Git | [@EelectricMiguel](#)

Wrote Python scripts interfacing with external hardware to measure incoming voltages

Used Google Sheets and Twitter APIs to create an automated tweet bot

Created bash scripts and config files to automatically restart scripts after system reboots

TN Lifesavers Conference App, iCUBE

Flutter conference app for the Tennessee Lifesavers organization with cross-platform image sharing.

Dart, Flutter, HTTP, REST, Express.js, Google Cloud

Worked closely with a UX designer to develop and implement all features using Flutter

Extended the flutter_share plugin to add image sharing support on iOS and Android

TN Tech Bus Tracker App, iCUBE

Cross-platform iOS and Android app for tracking Tennessee Tech University bus locations in real-time.

JavaScript, PHP, MySQL

Implemented a REST API in PHP to store and retrieve GPS coordinates from a MySQL database

Built cross-platform Android and iOS app using the Ionic framework to display live bus locations

Serious Solids, iCUBE

Educational chemistry app for iOS and Android built in collaboration with a Tennessee Tech professor.

Unity, C#

Worked closely with a chemistry professor to design and implement the application to specification

Prepared and released the application on both the iOS App Store and Android Play Store

River Ecosystem Conservation, iCUBE

Immersive Oculus VR experience demonstrating pollution's impact on an underwater river ecosystem.

Unity, C#, Oculus

Collaborated with 3D artists, environmental science students, education majors, and Tennessee Aquarium content experts

Wrote scripts to simulate being underwater through dynamic fog, lighting, and animated texture effects

VR Chalkboard

VR drawing system with a custom GPU shader for real-time texture painting, inspired by Half-Life: Alyx.

Unity, C#, Shaders, VR | [YouTube](#)

Created a custom shader to perform ultra-fast drawing on a Render Texture

Shader emulates Photoshop brush functionality and supports custom brushes defined via textures

Morse Code Toolkit [Asset Store](#)

Published Unity Asset Store package for transcoding Morse Code into audio signals or custom events.

Unity, C# | [Asset Store](#)

Developed and published a Unity Asset Store package that transcodes Morse Code messages into signals

Created a ToneGenerator component that dynamically generates audio tones at a given frequency

Tetromino Game

Tetris clone made in Unity to explore Dependency Injection via Scriptable Objects.

Unity, C#, Dependency Injection | [GitHub](#)

Implemented Dependency Injection using a Scriptable Object as the DI Container

Created an [Injectable] Property Attribute used by the DI system to inject required properties via reflection

Aural Sound Board

Desktop soundboard application with native file dialogs and audio device management built in Unity.

Unity, C#, UGUI, C++

Interfaced with NAudio to support changing output and input audio devices

Wrote a C# wrapper around the Native File Dialog C++ library for native file open dialogs

Implemented a save system to serialize the audio board state to a .json file

Software Renderer

Software rasterizer built from scratch in Java to study low-level GPU rendering and OpenGL.

Java, OpenGL, LWJGL | [GitHub](#)

Built a software rasterizer from scratch to learn how the GPU performs rasterization

Experimented with OpenGL and GLFW via the LWJGL library

JavaFX Pandora Music Player

Java desktop music player that streams from Pandora via a reverse-engineered undocumented REST API.

Java, JavaFX, HTTP, REST | [GitHub](#)

Wrote a Java REST client that interfaces with the undocumented Pandora REST API through reverse engineering

Created a JavaFX GUI to test the REST client and stream music from Pandora

Tic Tac Toe

Two-day personal project created to test a custom tweening library.

Unity, C#, UGUI, Tweens | [litch.io](#)

Created and published several Unity packages to GitHub

Implemented a basic Min-Max algorithm for the AI

Custom Operating Systems

Bare-metal operating system written in C and NASM Assembly running in a QEMU/DOS environment.

C, C++, Assembly, QEMU, Make

Wrote a bare-bones operating system in C and NASM Assembly targeting a DOS/QEMU environment

Implemented character printing routines for a VGA emulated graphics card

Wrote a basic memory manager for heap allocation and deallocation

Utilized the producer/consumer pattern to implement multi-threaded process handling

EDUCATION

Bachelor of Science, Computer Science, Tennessee Tech University

May 2018

GPA: 3.6 | Concentration: Software / Scientific Applications | Cookeville, TN

SKILLS

Languages: C# (expert), TypeScript (advanced), Java, C++, Python, JavaScript, Go, Dart, Rust **Game Engines:** Unity (expert)

Frameworks: Node.js (advanced), React, Three.js, Flutter, Express, Angular

Cloud: AWS (Lambda, API Gateway, DynamoDB, Cognito, ElastiCache/Redis, SNS), GCP (Cloud Run, Spanner, Cloud Storage), Azure

Tools: Git (advanced), GitHub Actions, Docker, Kubernetes, Serverless Framework, Jira, Perforce **Design:** Photoshop, Blender

AI: Claude Code, ChatGPT