# SHREEVALLABH SUNIL KULKARNI

**Software & Simulation Engineer | 3D Simulation, Procedural Systems, XR, & Full-Stack R&D**

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## PROFESSIONAL SUMMARY

Software & Simulation Engineer with 7+ years of experience and an M.S. in Game Design & Development. Uniquely bridged 3D engine pipelines, procedural generation, Virtual/Augmented Reality, real-time sensor/DSP telemetry, and full-stack web architecture. Ability to build interactive simulations and translate complex mathematical and physical phenomena into scalable 3D and web experiences.

## TECHNICAL SKILLS

- **Languages & Core:** C++, Python, C#, JavaScript, SQL, HTML5/CSS, Object-Oriented Design, Data Structures & Algorithms
- **3D Engines, Simulation & XR:** Unreal Engine, Unity, Procedural Generation, OpenXR/VR, Computational Geometry & 3D Math
- **Real-Time Pipelines, DSP, & AI:** RTL-SDR Radio Frequency (RF) Telemetry, Real-Time Stream Parsing, OpenAI/LLM API Integration, Subsumption AI & Autonomous Steering Architectures
- **Full-Stack Web Development & DevOps:** React.js, Node.js, PostgreSQL, Microservices Architecture, RESTful APIs, Jenkins CI/CD, Git, Snyk Security Remediation

## PROFESSIONAL EXPERIENCE

**Software Engineer (Full-Stack Web Development & R&D 3D Simulation)** | **Skillsoft Corporation, NY | Apr 2019 – Oct 2026**

- **Full-Stack Microservices Architecture:** Engineered and maintained production frontend and backend features across distributed microservices using React, JavaScript, Node.js, and PostgreSQL. Managed Jenkins CI/CD pipelines and resolved Snyk security vulnerabilities.
- **Interactive Gamification & Digital Credentials:** Prototyped and integrated interactive gamification mechanics and a scalable Digital Badge credential management system into Skillsoft's flagship enterprise e-learning platform (Percipio).
- **VR Safety & Industrial Training R&D:** Prototyped interactive Virtual Reality (Unity/C#) training simulations for critical safety procedures such as training for fire extinguisher operations and live fault diagnostics in electrical systems.

## PERSONAL PROJECTS

**Real-Time RF Meteor Scatter Telemetry** *(C++, Python, Unreal Engine 5, RTL-SDR) | 2025 – 2026*

- Engineered a Python DSP pipeline that reads raw live VHF radio samples to detect ionized atmospheric meteor reflections across an 18-month dataset (150+ validated events from Perseids meteor shower), paired with a C++ Unreal Engine subsystem to parse live telemetry streams and dynamically spawn 3D meteor phenomena in VR.

**AI-Driven VR/AR Simulation Suite** *(Unity 3D, C#, OpenAI API, Android AR) | 2023 – 2025*

- Built multiple VR training/learning scenarios and physics-based spatial AR prototypes, including an OpenAI LLM-driven conflict resolution trainer (VR), warehouse machinery trainer (VR), marker-based chemistry learning app (AR), markerless Solar System visualizer (AR), and a 3D spatial drawing and robotics/drone trail tracking tool with dynamic mesh geometry (VR).

**Procedural Biome/Dungeon Generation and Level Design** *(Unity C#, Unreal Engine, World Machine, Source SDK)*

- Implemented multiple projects that procedurally generate 3D and 2D worlds. Examples: 3D low poly island biome built using Perlin Noise, a 2D dungeon generation program made using Binary Space Partitioning, a 50km x 50km to-scale open world mountain mesh built using World Machine.
- A map designed for game Counter Strike: Global Offensive ranked top 7 played map on a European public server in 2015 (50,000+ monthly engagements).

## EDUCATION

**MS in Game Design and Development** (2016-2018)| Rochester Institute of Technology (RIT), NY | GPA: 3.87 (30% Merit Scholarship)

**B.E. in Computer Engineering** (2012-2015)| Sinhgad College of Engineering, Pune, India

## MENTORSHIP & PUBLICATIONS

- **Mentorship, Invited Lectures & Community Leadership:** Selected as 1 of 5 university-sponsored GDC scholars; served as a developer mentor (Game Jam events) and invited college guest lecturer; FCC Licensed Amateur Radio Operator (Call Sign: K2EXO).
- **Publications:** Kulkarni, S. (2015), 'Randomized Generation of Game Levels using Binary Space Partitioning' (IJEMR); Kulkarni, S. et al. (2015), 'PC Game Controlling through Android Mobile using Wi-Fi Network' (IJEMR).