

Sahil Ramani

SENIOR SOFTWARE ENGINEER · 3D SIMULATION, RECONSTRUCTION & SYNTHETIC DATA

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Summary

As an accomplished software developer with over 12 years of experience, including 4 years of specialization in machine learning, I have a proven track record of leading teams focused on R&D projects. Lately, I have been augmenting my expertise in machine learning, quantitative analysis, and algorithms to develop real-time trading strategies, utilizing my talents to create trading software during my free time. I am passionate about developing innovative solutions that push the boundaries of what's possible with technology, and I'm always eager to take on new challenges.

Skills

Programming Languages & Frameworks	C#, C, C++, Python, Bash Scripting
Machine Learning	NeRF, Object Reconstruction, Gaussian Splatting, Convolutional Neural Networks, Neural Rendering
Version Control	Perforce, Git, SVN, Mercurial

Work Experience

Zoox Inc

SENIOR SOFTWARE ENGINEER

Foster City, CA

July 2023 - Present

- Developed **3D Simulation and Synthetic Data** generation tools, boosting Zoox model performance by over 20%.
- Engineered frameworks for **dataset quality** evaluation using **ML and statistical approaches**, enhancing data integrity.
- Led projects to create realistic simulated worlds, employing state-of-the-art technologies like **NeRF, Gaussian Splatting**, and related techniques.

Unity Technologies

SENIOR SOFTWARE ENGINEER / SOFTWARE ENGINEERING MANAGER

Seattle, WA, USA

Aug. 2019 - July 2023

- Developed a Unity extension using **Neural Rendering** to dynamically transform game visuals, featured in the Beta teaser for the future of **Unity AI**.
- Significantly enhanced **machine learning efficiency** by designing **custom GPU kernels & operations**, which streamlined both training and inference processes, reducing overhead and accelerating performance.
- Led a team of engineers** in pioneering research to leverage machine learning for superior game lighting and rendering.
- Implemented high-performance, **GPU-accelerated tile-stitching** for Unity's terrain system with zero latent allocations.
- Patent 18/144,734** : System and Method for Interactive Asynchronous Tile-Based Terrain Generation

Crystal Dynamics

ENGINE LEAD, FUTURE PROJECTS / SENIOR SOFTWARE ENGINEER

Redwood City, CA, USA

Nov 2014 - Aug 2019

- Directed R&D efforts at Crystal Dynamics, **leading engine and tool technology advancements** for next-gen games.
- Engineered a groundbreaking **graph-based blendshape control system** from Maya to game, pivotal for Hulk's transformation in Marvel's Avengers.
- Patent #11189068** : Macro-based electronic map editing.

Dreamworks Dedicated Unit

SOFTWARE APPLICATIONS ENGINEER, ANIMATION & RIGGING TOOLS

Bengaluru, Karnataka, India

Mar 2013 - Oct 2014

Microsoft Corporation

SOFTWARE DEVELOPMENT ENGINEER IN TEST, XBOX GRAPHICS

Redmond, WA, USA

July 2011 - Oct 2012

Nokia Research Center

RESEARCH INTERN, MOBILE EXPERIENCES

Santa Monica, CA, USA

May 2010 - July 2010

Yahoo! Software Development India

SENIOR SYSTEMS ENGINEER / SYSTEMS ENGINEER

Bengaluru, Karnataka, India

July 2006 - July 2009

Education

Masters of Science in Computer Science, Game Development

UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles, CA, USA

Aug 2009 - May 2011

Bachelor of Engineering, Computer Science

BMS COLLEGE OF ENGINEERING

Bengaluru, Karnataka, India

Aug 2002 - June 2006

Udacity

NANODEGREE, AI FOR TRADING

Online

Jun 2021 - May 2022

NANODEGREE, DEEP LEARNING

Jun 2020 - Oct 2020