

Aakarsh Singh

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Education

New York University <i>B.A. Interactive Media, minors in Computer Science, Sound-Music Computing, Art History</i>	<i>September 2021 – May 2025</i>
	<i>GPA: 3.92/4.0</i>

◦ Relevant coursework: VR/AR Development, Web App Development, Shader Programming, Algorithms, Data Structures, Game Development, Natural Language Processing, 3D Modelling & Design, Calculus, Discrete Mathematics

Experience

XR Software Engineer <i>Date 0:0 - Artists Sara Niroobakhsh & Wafaa Bilal</i>	<i>Remote</i>
	<i>August 2025 – Ongoing</i>
◦ Developed a Unity and Meta XR SDK based MR/VR app, optimizing 3D scanned and artist-generated assets to reduce scene memory usage by 60% and achieve a stable 90 FPS performance for standalone Quest 3.	
◦ Implemented real-time NoSQL database synchronization for player interactions, supporting concurrent gallery installation devices with persistent environment states. Terrain and flora procedurally mapped using satellite imagery of the region.	
◦ Engineered custom C# interaction scripts and transitions between physical, Meta Passthrough MR, and VR environments.	
Fullstack Software Engineer <i>Callback</i>	<i>Tokyo, Japan/Remote</i>
	<i>May 2024 – December 2024</i>
◦ Launched a Next.js, Typescript, Express.js, and Firebase site with a user leaderboard, boosting weekly active users from 25 to 250 within three months. Orchestrated on GCP Cloud Run with CI/CD pipelines and Docker.	
◦ Built a scalable social RESTful API for user profiles and friend connections, doubling app engagement in one month.	
◦ Developed an enterprise dashboard with Stripe payouts, automated weekly Twilio mailed reports and data visualizations, increasing partner retention by 200%.	
XR Software Research Intern <i>NYU Tandon @ The Yard</i>	<i>New York City, USA</i>
	<i>June 2024 - August 2024</i>
◦ Independently delivered and optimized Unreal Engine environments and Niagara simulations for commercial productions.	
◦ Project showcased to 300+ participants at NYU engineering research conference and ArtsIT: Game Creation Conference.	
◦ Integrated advanced motion and volumetric capture pipelines, raising production efficiency by 35% in AR/VR projects.	
XR Software Engineer Intern <i>NEEEU Spaces GmbH</i>	<i>Berlin, Germany</i>
	<i>May 2023 – July 2023</i>
◦ Developed an AR ad campaign for BMW's lifestyle magazine, achieving a 20% increase in customer engagement.	
◦ Created Cinema4D assets and custom shader code, halving rendering time in Meta Spark Studio projects.	
◦ Prototyped a Unity spatial audio game for the visually impaired, with over 1000 downloads after initial release.	

Selected Projects & Presentations

LAND: Unreal Engine Film ↗	<i>November 2024 - April 2025</i>
◦ Created an Unreal Engine experimental short film integrating fluid simulation, motion capture, photogrammetry.	
◦ Developed and applied a custom LoRA fine-tuned model, trained on previous frames, to create AI-generated visuals.	
◦ Showcased the final film at Ars Electronica in Linz to an audience of over 122,000 visitors and international experts.	
Instructor - Architectural Association, London ↗	<i>July 2025</i>
◦ Invited to teach game design and scripting at an international workshop in Warsaw for architecture and PhD students.	
Real Art: AI Installation	<i>October - November 2022</i>
◦ Developed web installation for the Louvre Abu Dhabi using DALL-E 2, Next.js, Express.js, Firebase.	
◦ Gauged public perception and generated discussions around AI-generated artwork with over 500 museum visitors.	

Technologies

Programming Languages: JavaScript, Python, C++, C#, WebGL, HLSL, TidalCycles (Haskell)
Frameworks/Libraries: TypeScript, Next.js, React, React Native, Vue, SCSS, Node.js, Express, Firebase, Docker, MongoDB, A-Frame, ml5.js, p5.js, Three.js, WebSocket, Processing, Arduino, Automatic1111, ComfyUI
Software/Tools: Git/Github, Figma, Unreal Engine, Unity, TouchDesigner, Maya, Cinema4D, Redshift, Blender, Max/MSP, Jitter, Meta Spark Studio, Photoshop, Premiere Pro, Illustrator, After Effects, InDesign, Substance 3D Painter, Ableton