YASH AGGARWAL

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EDUCATION

Purdue University - West Lafayette, IN, USA **May 2027**
- Bachelor of Science in Computer Science and Data Science GPA: 3.76/4.0

EXPERIENCE

Luna Social, New York, USA **Oct 2024 – July 2025**
Software Engineer
- Led the frontend development of a next-gen social media app using Swift and MVVM, building 45+ reusable UI components across 12 modules — now powering all frontend systems.
- Designed and implemented a custom user-matching algorithm (GNN based) that analysed user preference vectors in real-time to suggest compatible people to connect with.
- Built and optimized a Firebase integration layer for real-time feeds and live chat, reducing API latency by 55% through advanced query optimization and pagination.
- Refactored memory-heavy components to reduce crash rates by 70% and enable scalable support for 5,000+ concurrent users during peak loads.

Shri Bake Bihari Industries, Delhi, India **May 2022 – June 2022**
Web Developer Intern
- Developed a responsive UI framework using CSS Grid and Flexbox, ensuring seamless cross-device compatibility across 15+ breakpoints.
- Automated validation and diagnostics for 200+ REST API endpoints using Postman, leveraging pre-request scripts and environment variables across development, staging, and production.

PROJECTS

SoundScape **Sep 2024**
- Developed an iOS application that helps visually impaired users safely navigate unfamiliar indoor spaces and locate specific objects or exits using real-time 3D spatial mapping and auditory guidance.
- Combined ARKit, LiDAR, YOLOv3, and CoreML to scan the environment and compute obstacle-free paths with sub-centimeter accuracy, maintaining >30 FPS performance across diverse conditions.
- Engineered a spatial audio system leveraging AirPods Pro's directional audio API and custom signal processing to guide users with intuitive, non-intrusive sound cues, ensuring 360° awareness without causing fatigue or confusion.
- Distinguished as a Top 12 Finalist among 220+ competing teams at HackMIT, receiving critical acclaim from industry experts and MIT faculty for pioneering breakthrough accessibility technology with real-world impact and technical innovation

MedAR **April 2025**
- Developed an interactive AR iOS application that transforms traditional MRI scans into immersive 3D anatomical models, and then enabling users to perform simulated brain tumor resections on them and explore its complex neuroanatomy in real-time.
- Engineered a multimodal interface using SwiftUI, ARKit, and LIDAR, while integrating custom Blender models with textures to allow intuitive manipulation (scaling, rotation, exploration) in a high-fidelity AR space.
- Integrated NLP-driven voice to support hands-free surgical simulations, dynamically routing spoken commands into contextual tool actions using a custom tool-calling system.
- Implemented advanced AR features including real-world occlusion, depth mapping, and persistent world anchors — allowing 3D objects to remain fixed in the environment even after app restarts or user relocation.

SKILLS

Languages: Swift, Python, C/C++, Java, SQL, JavaScript
Web Technologies: HTML, CSS, React, Node.js
Frameworks/Tools: ARKit, CoreML, YOLOv3, LiDAR, Firebase, Git, MongoDB, Postman, Blender, AWS
Concepts/Tech: RESTful APIs, Spatial Audio Processing, Computer Vision, NLP, Microservices, MVVM Architecture, Blockchain