Richa Gupta

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4+ years of industry experience in Creative Technology | Rapid Prototyper | Applied AI @ MIT

Forbes and MIT News Featured | MIT Gen AI Hackathon Winner | Publications in CAADFutures[8] NeurIPS[9] & HCII[10] [11]

WORK EXPERIENCE [4 years in Design + Technology Industry]

fivD Inc. Gurugram **2021 - 2023**

//Architecture and Planning Company | Recognized as the firm's 'Tech Explorer'

Product Manager – Digital Transformation

(Introduced firm-wide digital transformation and technology adoption through PoCs to improve design process, business communication)

- Launched internal SaaS platform (0→150 users in 2 weeks) **reducing manual effort 50%** and **decision-making time 30%**; **achieved 23% DAU/MAU**[8] through user research-driven feature development and DSAT[10] analysis
- Built AI/ML-powered prototypes (AR/VR, design automation, analytics dashboards) deployed in client pitches, contributing to **20% growth in international business**
- Conducted 100+ user interviews to define product roadmap, UI/UX, and technical architecture; led product documentation, metrics tracking, and stakeholder demos
- Developed real-time Power BI + React.js dashboards improving cross-functional collaboration and global delivery speed

Project Architect

- Led a variety of large-scale BIM[9] 3D projects by capturing user requirements and coordinating multi-disciplinary teams **across 3 timezones** - India, UAE, and North America.

MYVN Studio Bengaluru **2019 - 2021**

Project Architect

- Coordinated design handoffs, site execution, and client reviews for 5 commercial large-office interiors ($2.8M+ project value in Bengaluru)
- Maintained on-time delivery through structured risk management protocols and stakeholder feedback integration.

AI PRODUCTS

Curator AI - Speech, AI & AR for E-Commerce - *MIT Generative AI Hackathon Winner*

- Observed inefficiencies in online furniture discovery - designed voice-controlled Agentic AI recommendation system with visual contextual understanding for Interior Design, integrating Whisper API, Google Gemini API, Google APIs, RoomPlan API, and AR development tools.
- Designed a voice-driven Human AI interaction for visual search, improving user experience in a complex discovery task.

Text-to-Robotic Assembly for Functional Objects - NeurIPS 2025 (Password: 12345)

Developed pipeline combining 3D generative AI and VLM agents to automate part assignment for robotic assembly, achieving 98% accuracy in functional component identification. Selected as best poster at MIT Course 2.155.

Shore AI -AI-Powered Professional Networking Platform

Ideated platform addressing relationship-building inefficiencies through goal tracking, AI-assisted communication, and visual network mapping. Validated concept through 15+ user interviews identifying 3 key pain points in early-career networking workflows.

CORE COMPETENCIES

AI Product

Fine-tuned generative models (Stable Diffusion, GPT-4 Gemini) | Multi-modal AI systems (text/image/3D/speech) Agentic AI architecture | Model evaluation (HITL, FID) PyTorch, TensorFlow, OpenCV, Claude & OpenAI APIs

Technical and Design Prototyping

Python, JavaScript (React, Node.js), SQL | GCP, AWS, MI APIs | Git, Docker, CI/CD | Full-stack prototyping | Datc visualization (Power BI, Tableau) | Figma, Adobe Suite (Photoshop, Illustrator, InDesign, Firefly) | Wireframing High-Fidelity Prototyping

Product Execution

0→1 products (0→150 users) | 50% efficiency gains via SaaS automation | 23% DAU/MAU optimization | 100+ user research interviews | DSAT analysis | A/B testing | 3-timezone stakeholder management | GTM contributing to 20% revenue growth through innovation | UI/UX Design

Methodologies

Agile/Scrum | Design Thinking | Jobs-to-be-Done | OKRs | Technical roadmapping | Product-market fit validation | User Research & Empathy | Journey Mapping | Usability Testing

LEADERSHIP + HONORS + CO-CURICULAR [2023 -2025]

Leadership & Invited Talks: Co-organizer, India Conference@Harvard | MIT Academic Mentor | Speaker at Microsoft, IEEE, IIT Madras & McGill University | MIT News feature | Steward at MIT Graduate Student Union (GSU) and Council (GSC) | Workshops @ACADIA 23

Other Interests: Guitar, Running, Swimming, Licensed Kathak Dancer, Event Host (5-7), Fashion Modelling

ENTREPRENEURSHIP

ArchiDAO LLC Global, registered in Wyoming, USA **2021 - 2023**

//Blockchain community based Non-Profit DAO (Decentralised Autonomous Organisation) for 500+ Designers and Technologist | In 6 Continents

Co-founder

- Retained community engagement through technical workshops and diverse community-building design initiatives like Metaverse, Web3.
- Facilitated technology discovery sessions with 500+ global technologists/designers to capture pain points and creative design solutions.

Plus AI - *selected as Gold Team at MIT AI Venture Studio by Ramesh R. and secured early adopter + investor traction.*

- Node-based AI tool designed for Domain specific use case based on high usage index.
- Identified lack of AI prototyping tools and MVP design execution along with product design roadmap.

EDUCATION

Massachusetts Institute of Technology **2023 - January 2026**

Master of Science in Design Computation

Master of Science in Computer Science

MIT GradEL Technical Leadership Certification

Thesis: Developed and validated an 'Insight-Informed' Gen AI (IIGenAI) approach | Beyond the Render: Insights Informed Generative AI (IIGenAI) grounding generative AI outputs with real-world data for informed Decision-making | **Technical Coursework**: Interactive Data Visualization, Web Development (Web Lab), Advances in Computer Vision, Deep Learning, AI & ML for Engineering Design, Computational Design Lab, AI Decision Making and Society, Towards Data Science for Society | **Technical Leadership**: Product Engineering & Leading Creative Teams, Leadership Development Qualities (MIT Sloan)

Harvard University

Cross-registered student at Harvard Business School

National Institute of Technology, Raipur (NIT) **2014 - 2019**

Bachelors of Architecture Design

MIT [RESEARCH, INTERNSHIP & PUBLICATIONS]

MIT Computer Science and Artificial Intelligence Lab *(CSAIL)* **+ MIT Media Lab** *(Leventhal Center for Advanced Urbanism)* **2025**

Graduate Research Assistant (with Prof. Randall Davis & Prof. Takehiko Nagakura)

- Conducted and Implemented HCI and AI Engineering research to address the UX rigidity of existing AI tools for urban designers and identify key interaction gaps to improve their productivity with multi-subject, multi-modal statistical Diffusion Model and Vision Language Model (VLM).
- Designed and built a functional prototype using multi-modal AI and fine-tuned models to test a novel interaction paradigm, giving users more direct control over the generative process than standard LLMs via Sidara(A+E) grant.
- Facilitate live user testing, experiment design and gather iterative feedback, directly informing the next design engineering cycle.

CorbuAI Inc. San Francisco, CA **2024**

// 5-member cross-functional team of AI researchers and designers in a Design Tech start-up; Customised AI solutions

Generative AI Design Intern

- Identified client(Artists) pain points in creating domain-specific AI workflows and delivered end-to-end AI intuitive solutions for fine-tuned (LoRA) stable diffusion (SDXL 1.5) models.
- Validated new design engineering framework using HITL[2] reviews + FID[3] scores, which enabled stylistic satisfaction by 77% and 43% reduction in project turnaround time, directly linking the improved UX to measurable productivity gains.

Publications:

[11] **R. Gupta**, A. K. Htet, "Insights Informed Generative AI for Design: Incorporating Real-World Data for Text-to-Image Output," CAAD Futures 2025, arXiv:2506.15008

[12] A. H. Kyaw, **R. Gupta**, D. Shah, et al., "Text to Robotic Assembly of Multi-Component Objects using 3D Generative AI and Vision Language Models," **NeurIPS 2025** (Accepted)

[13] **R. Gupta**, T. Knight, T. Nagakura, "Beyond the Render: Grounding Generative AI with Real-World Material Data for Informed Design Decisions," AI-HCI 2026 (HCII affiliated), Springer (Accepted)

[14] R. Sanatani*, **R. Gupta***, F. Tan, R. Davis, T. Nagakura, "Beyond Prompts: A Reference-Based Interaction Framework for Generative AI in Design Fields," AI-HCI 2026 (HCII affiliated), Springer (Accepted)

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[1] Low-rank adaptation (a technique for efficiently tailor/fine-tune AI pre-trained models) [2] Human-in-the-loop [3]Fréchet Inception Distance [4]Variational Autoencoder (A generative model that learns to create new, realistic data.) [5]Contrastive Language-Image Pre-training (A model that connects images with text.) [6]Structural Similarity Index Measure (Compares the visual similarity of images.) [7]Mean Absolute Error (Measures the pixel-by-pixel error) [8] Daily/Monthly Active Users [9] Building Information Modelling - information-rich 3D digital models in Architectural Design [10] Dissatisfaction Score