

# Anshay Agarwal

AI R&D Engineer | Founder | anshayagr@gmail.com | [LinkedIn](#) | [GitHub](#)

**R&D-focused AI Engineer** with 10+ years of experience driving innovation across startups and major tech (Qualcomm, Nvidia, DRDO). Passionate about building autonomous **AI Agents** and applying cutting-edge AI to **Healthcare**. Proven track record of taking novel concepts from research to full-stack implementation.

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## Experience

### Stealth AI Venture

**Founder** (AI, Python) Oct 2025 - Jan 2026

- **Real-Time AI Agent:** Architected "Agent on Call," an autonomous voice assistant for Telegram capable of complex, multi-turn conversations with sub-second latency.
- **Streaming Architecture:** Engineered a full-duplex audio pipeline using **raw PCM named pipes** and **RMS-based Voice Activity Detection (VAD)** effectively creating a "hear-while-speaking" capability.
- **System Integration:** Orchestrated **Google Gemini 2.5 Flash** (LLM), **Faster-Whisper** (Local STT), and **Edge-TTS** within a highly concurrent **asyncio** framework to deliver a seamless user experience.
- **Reliability Engineering:** Developed robust "heartbeat" mechanisms and audio state locks to ensure 99.9% connection stability during long-running sessions.

### Schoolbook.ai

**Co-Founder, Head of AI and Engineering** (AI, Python) Jun 2025 - Sep 2025

- **AI Teacher Platform:** Built a comprehensive "Visual AI Teacher" for K-12 education, integrating LLMs with **multimodal** perception for real-time classroom delivery.
- **RAG Pipeline:** Designed and implemented a **Retrieval-Augmented Generation (RAG)** system over NCERT textbooks using vector databases to generate accurate lectures and personalized assessments.
- **Agentic Frameworks:** Engineered multi-step AI behaviors using **LangGraph**, **Google GenAI**, and **Gemini**, enabling the AI teacher to use tools and adapt lesson plans dynamically.
- **Full-Stack Leadership:** Led the end-to-end development of backend services, frontend integration, and system orchestration, establishing the DevOps and deployment infrastructure.

### Qualcomm

**Senior Lead Software Engineer** (AI, Python, C++) Apr 2023 - Mar 2025

- **Innovation in XR:** Achieved a **96% reduction** in flicker correction latency for **XR** (35ms → 1.32ms) by inventing optimized **GPU** algorithms.
- **Next-Gen Imaging:** Spearheaded the design of novel HDR flows for Premium Tier chips, redefining image quality benchmarks for upcoming hardware.

### GreyScaleAI

**Software Engineer** (C++, Python, OpenCV) Feb 2021 - Mar 2023

- **R&D:** Built a comprehensive food inspection solution integrating X-ray and RGB cameras with Deep Learning models, enabling plug-and-play capability.
- **Embedded Systems:** Designed a real-time embedded UI orchestrating communication between hardware sensors and user inputs.
- **Code Quality:** Led a complete codebase refactoring initiative that streamlined build processes.

## Nvidia

**System Software Engineer** (C++, Python) Aug 2017 - Jul 2018

- **Camera Pipeline:** Enhanced Tegra SW platform imaging stack; resolved critical lens shading and CUDA Histogram issues.

## DRDO (Ministry of Defence)

**Scientist** (C++, MATLAB, OpenCV) Aug 2013 - Jul 2015

- **Healthcare/Military Tech:** Engineered solutions for lens shading correction in Thermal Imagers (LREO/MREO), critical for night vision.
- **Innovation:** Built a custom Raspberry Pi-based remote controller for Thermal Imagers, eliminating external procurement costs.

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## Projects

**AI-Powered Content Summarizer** (React Native, LangChain, Vector DB)

- Developed a cross-platform mobile app (Expo/React Native) for podcast and video summarization using **LLMs** and **RAG**.
- Integrated vector databases for semantic search and managed full-stack deployment for real-time inference.

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## Skills

**Languages:** Python, C++, JavaScript

**AI/ML:** Agents (LangGraph), LLMs (Gemini, LangChain), RAG, Deep Learning (FastAI, TensorFlow), Computer Vision (OpenCV), ASR (Whisper)

**Systems:** Git, Linux, Embedded Systems, MQTT, Real-time Audio Processing, Asyncio

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## Achievements

- **GRE:** 321/340 (170/170 in Quant)
- **GATE (Electronics):** Secured All India Rank **423** (99.998 percentile).
- **IIT-JEE:** Secured All India Rank **3547** (Top 1% of 0.4 million candidates).
- **XII Board:** Ranked in Top 0.1% nationally; scored 100% in Mathematics.

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## Education

**IIT Delhi** M.Tech, Computer Technology 2015 - 2017

- **Dissertation:** "Thermal Video Stabilization" for night vision systems.
- **Project:** Brain-Computer Interface (BCI) using EEG motor imagery signals for cursor control.

**IIT Mandi** B.Tech, Electrical Engineering 2009 - 2013

- **Dissertation:** Automobile COLLision Prevention System
- **Leadership:** Founding Member of Robotics Section; Built IIT Mandi's first robot.

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## Specializations

- **Wharton School:** Entrepreneurship Specialization (2021-2022)
- **DeepLearning.AI:** TensorFlow Professional Cert (2020), Deep Learning Specialization (2019)