**Anshay Agarwal**

[LinkedIn](https://www.linkedin.com/in/anshayagarwal)

[anshayagr[at]gmail[dot]com](mailto:anshayagr@gmail.com)

+91-8800472674

**EXPERIENCE**

**Qualcomm** Senior Lead Software Engineer (AI, Python, C++) (04/2023 - present)

* Accomplished a 96% reduction in flicker correction latency for XR on GPU by implementing optimized algorithms, which decreased latency from 35ms to 1.32ms.
* Led the design of an innovative HDR flow by developing tailored solutions for upcoming Premium Tier chips, which enhanced overall image quality and performance.

**GreyScaleAI** Software Engineer (C++, Python, OpenCV, Git) (02/2021 - 03/2023)

* Built a comprehensive food inspection solution by leveraging an X-ray camera, Computer Vision, Deep Learning, and OpenCV, which enhanced detection accuracy and efficiency
* Accomplished seamless integration of multiple camera types, including X-ray and RGB, by developing specialized software, which allowed plug and play capability.
* Created a fully embedded user interface by designing a system that manages real-time communication with hardware, software, and user inputs, which improved user experience and operational efficiency.
* Developed a client for MQTT protocol communication by implementing robust messaging capabilities, which facilitated reliable data exchange between devices.
* Conducted a full code refactoring and enhanced the build process which improved code maintainability and streamlined development workflows.

**Nvidia** System Software Engineer (C++, Python, Git) (08/2017 - 01/2021)

* Enhanced the Tegra SW platform by developing new features and debugging the Camera Imaging pipeline, which resulted in an overall improvement of the imaging software stack.
* Delivered over 10 critical bug fixes in the camera stack by addressing issues in lens shading and CUDA Histogram, ensuring timely product delivery and improved product reliability.

**DRDO** Scientist (C++, MATLAB, OpenCV) (08/2013 - 07/2015)

* Implemented solutions to minimize vignetting caused by lens shading in Thermal Imagers (LREO and MREO), enhancing the performance of night vision cameras used in military applications.
* Improved image quality by addressing issues related to bore-sighting, noise, and poor focus in thermal images captured with LREO and MREO.
* Engineered and built a Raspberry Pi-based controller for remote operation of the Thermal Imager. This in-house innovation eliminated the need for external procurement, resulting in cost savings and reduced development time.

**RELEVANT SKILLS**

Python, Langchain, C++, Git, DeepLearning, fastai, OpenCV

**PROJECTS**

**AI-Powered Podcast and Video Summarization App** (LLM, Langchain, AI, React)

Developed an Android app using React Native and Expo that employs advanced language models (LLMs) to summarize podcast and YouTube content, along with an interactive Q&A feature. Integrated a vector database to enhance content retrieval and user interactions. Managed the complete project life-cycle, including back-end hosting for real-time model inferencing.

**EDUCATION**

**Masters Of Technology** Computer Technology, Indian Institute of Technology Delhi (IIT Delhi) (2015-2017)

* **Dissertation**: Conducted an in-depth study on “Thermal Video Stabilization”, focusing on the stabilization of videos captured through night vision cameras.
* **Project on Brain Computer Interfacing** that utilized Motor Imagery signals captured via EEG to control cursor movement on the screen. This innovative approach demonstrated the potential of brain-computer interfaces in real-world applications.

**Bachelors Of Technology** Electrical Engineering, Indian Institute of Technology Mandi (IIT Mandi) (2009-2013)

* **Thesis:** Conducted comprehensive research on an “Automobile Collision Prevention System”, focusing on enhancing vehicle safety.
* ****Founding Member, Robotics Section, IIT**:** Pioneered the establishment of the Robotics Section at IIT, leading the construction of the first robot at IIT Mandi from the ground up.
* ****Member, Electronics Section**:** Actively participated in the Electronics Section, contributing to various projects and discussions.
* ****Scholarship**:** Awarded the Merit Cum Means Scholarship in recognition of academic excellence.

**CERTIFICATES / SPECIALIZATIONS**

****Entrepreneurship** **Specialization**,** The Wharton School (2021-2022)

Completed a comprehensive five-course series on entrepreneurship, covering the inception, design, organization, and management of new enterprises. The curriculum was designed to guide learners from opportunity identification through launch, growth, financing, and profitability.

****TensorFlow Developer Professional Certificate**,** Deeplearning.ai (2019-2020)

Gained proficiency in TensorFlow, with a focus on understanding loss functions, optimizers, convolutions, LSTM, and more.

****Deep Learning Specialization,**** Deeplearning.ai (2018-2019)

Acquired foundational knowledge of Deep Learning, including an understanding of Convolutional Networks, Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM), and more.

****ACTIVITIES****

* Led and organized a workshop on Mobile Autonomous Robotics at IIT Mandi.
* Participated in a workshop on Swarm Robotics at Thapar University.
* Coordinated multiple events at Cognizance 2009 at IIT Roorkee.

**ACCOMPLISHMENTS**

* Achieved a GRE score of 321/340, with a perfect score of 170/170 in the Quantitative section.
* Secured an IIT JEE rank of 3547 among 0.4 Million students.
* Attained a GATE rank of 423 (99.998 percentile) in Electronics and Communication.
* Ranked among the top 0.1% of students in India in the XII board exams (AISSCE), scoring 100% in Mathematics and 99% in Computer Science.

**PSYCHOMETRIC**

* **MBTI** Personality Type: INTJ-T, characterized as The Architect, Analyst, and Constant Improvement.
* **Enneagram** Type: 6w5, known as “The Guardian = Loyalist wing Investigator”.
* VIA Character Strengths: Creativity (1), Honesty (2), Perspective (3), Good Judgment (4), and Curiosity (5).