Anshay Agarwal

LinkedIn
anshayagr[at]gmail[dot]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).