Animesh

Computer Science & Engineering
Indian Institute of Technology Bombay

21Q050015
MS by Research
Male
DOB: 09/02/1998

Examination	University	Institute	Year	CPI/%
Post Graduation(MS by Research)	IIT Bombay	IIT Bombay	2021-24	8.72
Graduation(B.Tech CSE)	GKV Haridwar	FET	2016-20	8.63
Intermediate/+2	CBSE	Kendriya Vidyalaya, NER	2015	95.6
Matriculation	CBSE	Kendriya Vidyalaya, NER	2013	9.80

MS THESIS & SEMINAR

- **Neural Rendering for Augmented Reality**
  *(MS Thesis | Guide: **Prof. Parag Kumar Chaudhuri**)* *(July'22-Present)*
  Objective:
  - Optimized augmented reality using neural radiance fields for realistic augmented scenes.
  - Extended individual NeRFs as building blocks for merged AR renderings.

  Current work:
  - Developing a novel approach to address occlusion and illumination challenges in augmented reality (AR) scene augmentation using NeRF models.
  - Extending innovative methods, including inferring individual NeRFs and using intermediate merged NeRFs with a "Generalizing module" to enhance realism and immersion in AR scenes.
- **Advancements in Neural Rendering**
  *(MS Seminar | Guide: **Prof. Parag Kumar Chaudhuri**)* *(Jan'22-May'22)*
  - Analyzed limitations of naive NeRF method: relighting, texture editing, and dynamic scene rendering.
  - Explored follow-up works that enhance neural rendering techniques.
  - Provided quantitative comparison of discussed methods, offering insights into recent advancements in the field of neural rendering.

COURSE PROJECTS

- **Pianos are hard? VAEs to the rescue!**
  *(CS 726: Advanced Machine Learning, Instructor: **Prof. Sunita Sarawagi**)* *(Jan'22-June'22)*
  - Developed a **CNN-based Variational AutoEncoder (VAE)** architecture for music generation, encompassing five instruments: Drums, Piano, Guitar, Bass, and Strings.
  - Utilized the Lakh Pianoroll Dataset (LPD) for model training, enabling the generation of diverse musical sequences.
  - Open-sourced the code and trained model, offering accessibility to interested readers for further exploration.
- **Image Quilting for Texture Synthesis**
  *(CS 663: Fundamentals of Digital Image Processing, Instructor: **Prof. Ajit Rajwade**)* *(July'21-Nov'21)*
  - Successfully implemented the **research paper** "Image Quilting for Texture Synthesis and Transfer" to perform **texture synthesis** through image quilting.
  - Leveraged **image quilting** as a simple yet effective method for generating novel visual appearance, seamlessly stitching together small patches from existing images to synthesize a new image.
- **XYZ News Portal**
  *(CS 699: Software Lab, Instructor: **Prof. Kavi Arya**)* *(July'21-Nov'21)*
  - Developed "XYZ News Portal," a dynamic web application using *PHP, Bootstrap & mysql* featuring diverse news articles.
  - Employed **python web-scrapping** to scrap various news articles from various local news portals.
  - Established a robust database to store and manage news article information, complemented by an efficient admin portal for content editing and management.

TECHNICAL SKILLS

- **Programming & Scripting Languages**: C, C++, Python
- **Web Development**: HTML, CSS, Javascript
- **Tools & Libraries**: MATLAB, LaTeX, OpenCV, PyTorch, OpenGL, mysql

POSITIONS OF RESPONSIBILITY

- **Interview Coordinator** *(Sep'21-Dec'21)*

- Coordinated with a team of **250+** members for interviews of **1800+** students.
- Assisted in conducting Tests for **20+** firms and handling student queries.

- **Teaching Assistantship**
  - **CS 763: Computer Vision**
    *(Instructor: **Prof. Sharat Chandran**)* *(Jan'23-June'23)*
    * Facilitated course assignment creation and evaluation for a class of **65+** students.
    * Supported instructor in conducting efficient end-semester exams and project evaluations.
  - **CS 449: Topics in Artificial Intelligence Programming**
    *(Instructor: **Prof. G Sivakumar**)* *(July'22-Nov'22)*
    * Helped the instructor to efficiently conduct and evaluate the mid-semester, end-semester exams and project evaluations.
  - **CS 101: Computer Programming and Utilization**
    *(Instructor: **Prof. Parag Chaudhuri**)* *(July'21-Dec'22)*
    * Coordinated with a team of **50+** TAs to administer weekly quizzes and coding assignments for a class of **750+** students.
    * Conducted doubts clearing sessions and provided student support.

ACHIEVEMENTS & EXTRA CURRICULARS

- Attained a commendable All India rank of **447** in GATE CSE 2021, among **101,922** candidates.
- Awarded CBSE certificate for exceptional performance, ranking among the **top 0.1%** in Class 12 board exams.
- Passionate electric guitar player and avid football enthusiast.
- Enthusiastic consumer of psychological and philosophical media content, including books, movies, documentaries, and more.