KUNAL

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Chandigarh, Punjab - 140301 I

OBJECTIVE

Driven and innovative Computer Science student seeking a challenging position to leverage my expertise in machine learning, AI, and software development. Eager to contribute to groundbreaking projects at the intersection of generative AI, cybersecurity, and real-world problem-solving, while continuing to expand my knowledge in cutting-edge technologies.

EXPERIENCE

• GenVR Research Pvt ltd. *May 2023 - July 2023*
Student Researcher - ML Engineer Remote
- Developed the GestureDiffuCLIP model, achieving a significant improvement in gesture recognition accuracy by 15% in human-computer interaction.
- Implemented CLIP latent in a gesture diffusion model, enhancing model effectiveness by 20%.
- Conducted analysis on experimental data, identifying critical improvements in model performance and stability.
- Presented research findings at the International Conference on Human-Computer Interaction, receiving recognition for innovative application of AI in gesture recognition.

• INTEL *June 2023 - July 2024*
AI for Future Work Force Program Chandigarh, Punjab
- Constructed an AI-driven solution that automated data analysis for real-world scenarios, increasing project efficiency by 25%, while receiving commendation for demonstrating exceptional practical application of advanced AI techniques.
- Implement a machine learning project to study the research topic assigned.

EDUCATION

• Chandigarh University *August 2021 - May 2025*
Bachelor's of Engineering - Computer Science Chandigarh, Punjab
- GPA: 7.52/10

• Mother's Pride Convent School *March 2021*
Senior Secondary Hisar, Haryana
- Grade: 93.4%

• Adarsh High School *March 2019*
Matriculate Hisar, Haryana
- Grade: 81.4

PROJECTS

• MODEL FOR CONTENT-BASED IMAGE RETRIEVAL *July 2023 - August 2023*
Machine learning, Python, Retrieval, GAN AI
- Developed an advanced image retrieval system for accurately indexing and retrieving images based on visual content.
- Implemented a deep learning-based feature extraction model for optimizing image matching, achieving a 25% increase in retrieval precision.
- Created a scalable image database architecture, ensuring efficient storage and quick access to large datasets.
- Applied hyperparameter tuning methods to analyze model performance, significantly enhancing retrieval accuracy and speed.

• Text to Speech *May 2023*
GAN AI, Jupiter, Machine learning
- Developed a transformer-based text-to-speech system for generating highly realistic, multilingual speech from text inputs.
- Created a modular architecture for speech synthesis, ensuring flexibility and ease of integration with various applications.
- Applied advanced optimization techniques to analyze and fine-tune the model's performance, resulting in more accurate and expressive audio outputs.

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- **Skin Cancer Disease Prediction** *May 2023*
  EfficinetNet- B7, Machine Learning, Image Processing
  ◦ Enhanced a skin cancer prediction model utilizing machine learning techniques and the HAM10000 dataset, achieving an impressive accuracy of 89
  ◦ Showcased machine learning's role in early skin cancer detection, using 75-25 ratio for training and testing part, emphasizing its impact on patient outcomes and advancement in automated medical image analysis.

PATENTS AND PUBLICATIONS
C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

[C.1] Kunal, Chahil, and K. Kaur. A machine learning model for content-based image retrieval. IEEE, 2023. doi.org/10.1109/INOCON57975.2023.10101215.

[C.2] Kunal, G. Shingari and D. Sharma, "An Approach to Mine Data for Predicting Forest Fires Using Support Vector Machines and Gini Index for Feature Selection," *2023 International Conference on Circuit Power and Computing Technologies (ICCPCT)*, Kollam, India, 2023, pp. 1457-1462, doi: 10.1109/ICCPCT58313.2023.10245148.

[J.1] Kunal, T. Matoso, and A. C. award. M2-ctts: End-to-end multi-scale multi-modal conversational text-to-speech synthesis. IJIEMR, 2023.

[P.1] Kunal. "Machine Learning based system to analyse Biomedical Interventions", German Utility Patent (GUMBLIIP2023/201) [GRANTED]

[P.2] Kunal. "WEARABLE DEVICE FOR MONITORING OF VITAL BODY HEALTH", United Kingdom Design Patent- 6293790 [Granted]

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Java, Python, HTML, CSS, JavaScript, R
- **Developer Tools:** Visual Studio Code, GitHub, Discord, Ms Word, Ms Excel, Canva, Figma.
- **Cloud/Databases:** Mysql, Oracle, Google Firebase.
- **Proficiency** Visionary, Cognoscente, Arbitrator, Resilient, Equilibrium, Multifaceted, Adaptive, Retention.
- **Coursework:** Data Structure, Networks, Software methodology, Designing Algorithm, DBMS, AIML.
- **Areas of Interest:** Research, Development, Analysis, Web Development, Android Development.

HONORS AND AWARDS

- **Most Distinguished International Researcher of the Year** *2023*
  GGA
- **Innovation Award for Excellence in Patents - 40+ Patents** *2023*
  Chandigarh University
- **Academic Excellence Award A+** *2023*
  Chandigarh University
- **Out and Bout Award** *2023*
  IEEE

LEADERSHIP EXPERIENCE

- **President - Scriptogen Departmental Society** *Dec 2022 - Present*
  Research and Development society
- **Research Lead** *Jan 2024 - July 2024*
  IEEE

ADDITIONAL INFORMATION

Languages: English, Hindi, Punjabi
Interests: Writing, Travel, Poetry, Sketch