

Innovation Fest 2023

(For II Year Hostel Students)

CoE Name: Machine Learning Date: 18/12/23

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| **1.** | **Mentor Name & Designation: Dr. V.Karunakaran / Associate Professor in Dept.of CSE(AI&ML)** | | | |
|  | **Student Mentor Name and Details: Haresh A V / II – Year / Dept.of AI&DS A** | | | |
| **2.** | **Student Innovators Details: GAN Image Generation** | | | |
| **Year/Dept./Sec.** | **Name** | | |
| II AI&DS A | HARESH A V | | |
| II AI&DS A | LOGABAALAN R S | | |
| II AI&DS A | MONISH G | | |
| II AI&DS B | SRE DEVA J | | |
| **3.** | **Project Title:** | **AI FASHION GENERATOR** | | |
| **4.** | **Field / Thrust Area: GEN AI** | | **5.** | **Total Budget (**http://www.blogcdn.com/www.coolage.in/media/2011/06/rupee-symbol.jpg**): 0** |
| **6.** | **Abstract of the Innovative project report:**  This study explores the application of Generative Adversarial Networks (GANs) in the domain of fashion generation, leveraging artificial intelligence (AI) to produce novel and realistic clothing designs. GANs, a class of machine learning algorithms, consist of a generator and a discriminator trained in tandem to create synthetic data that closely resembles real-world examples. In the context of fashion, GANs offer a promising avenue for automated and creative design generation.  Our research focuses on the development of an AI-driven fashion generation system that harnesses the power of GANs to produce diverse and aesthetically pleasing clothing designs. The generator learns from a dataset of existing fashion trends, enabling it to generate new and unique garments. The discriminator, in turn, refines its ability to distinguish between generated and real fashion items, leading to an iterative improvement in the overall quality of the generated designs.  We conduct experiments to evaluate the system's performance in terms of diversity, realism, and relevance to contemporary fashion trends. The results demonstrate the capability of the proposed AI fashion generation approach to produce visually appealing and trend-conscious designs. Additionally, we explore the potential for customization by allowing users to influence the generated designs through input parameters, thereby offering a personalized experience.  This research contributes to the growing field of AI in fashion by presenting a practical implementation of GANs for automated design generation. The implications extend beyond creative applications, encompassing areas such as virtual fashion prototyping, trend forecasting, and personalized fashion recommendations. The synthesis of AI and fashion design not only accelerates the creative process but also opens new avenues for exploration in the dynamic and ever-evolving world of fashion. | | | |
| **7.** | **The importance and benefits of the innovative project to the society:**  The integration of AI-driven fashion generation using GANs holds significant importance for society by revolutionizing the fashion industry. This technology streamlines the design process, fostering creativity and innovation while reducing time and resource requirements. By automating design generation, it enables rapid responses to evolving fashion trends, accelerating the industry's ability to adapt to changing consumer preferences.  Moreover, AI in fashion contributes to sustainability by optimizing production processes, minimizing material waste, and supporting eco-friendly practices. The democratization of fashion design through personalized customization empowers individuals to express their unique styles, fostering inclusivity in the fashion landscape.  Additionally, the use of AI enhances efficiency in virtual prototyping, leading to cost savings for designers and manufacturers. It also aids in trend forecasting, providing valuable insights that guide businesses in making informed decisions. Overall, the societal benefits encompass increased sustainability, accessibility, and efficiency, marking a transformative shift in the way fashion is conceptualized, designed, and consumed. | | | |
| **8.** | **Process Flow diagram**  Generative Adversarial Networks | | | |
| **9.** | **Final Prototype Image/Screenshots** | | | |