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CRITERION 3- Research, Innovations and Extension

KEY INDICATOR 3.4- Research Publication and Awards

Metric No: 3.4.4 Details of books and chapters in edited volumes/books per teacher during the year 2023-2024

S.No	Content	Page No.
1	3.4.4.1: Total number of books and chapters in edited volumes/books published, and papers in national/international conference proceedings during the year 2023-2024	02-03
2	Authenticated copies	04 - 08



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3.4.4.1: Total number of books and chapters in edited volumes/books published, and papers in national/international conference proceedings during the year 2023-2024

S. No.	Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
1	Dr.P.S.Satheesh Kumar & Dr. N. Kavitha	Introduction to Semiconductor Physics and Devices Applications	NA	NA	NA	NIL	2024	9788196767136	NA	GCS Publishers, India
2	Dr. P. Shanmugapriya	Multidisciplinary Approaches in Social Sciences	NA	NA	NA	NIL	2023	9789358790207	NA	Red Shine Publication
3	Dr. P. Jeyasankar	Tamil Heritage – Tamils and Technology-3 - "சங்ககால நிறுவன வேளாண்மைத் தொழில் நுட்பம் சமூகமாற்றம்"	NA	NA	NA	NIL	2023	9788197445637	NA	Pandian Educational Trust, Maheshwari Publishers, Virudhunagar
4	Dr.K.Kanimozhi & Mrs. K. Rajalakshmi	wSafe24/7: Empowering Women's Personal Security Through Innovative Mobile Wearable Devices, Surveillance systems, and AI for women's wellbeing	Wearable Devices, Surveillance systems, and AI for women's wellbeing	NA	NA	NIL	Mar-24	9798369348352	NA	IGI GLOBAL Publisher



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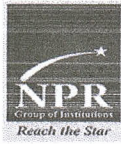
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		and Wearabl e Technolo gy							
5	Dr.K.Kan imozhi	AI Approac hes to Smart and Sustaina ble Power Systems	Design of novel control scheme for an aquaponics system in bio environme nt	NA	NA	NIL	Mar-24	97983693 15866	NA



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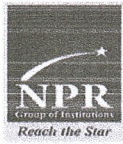
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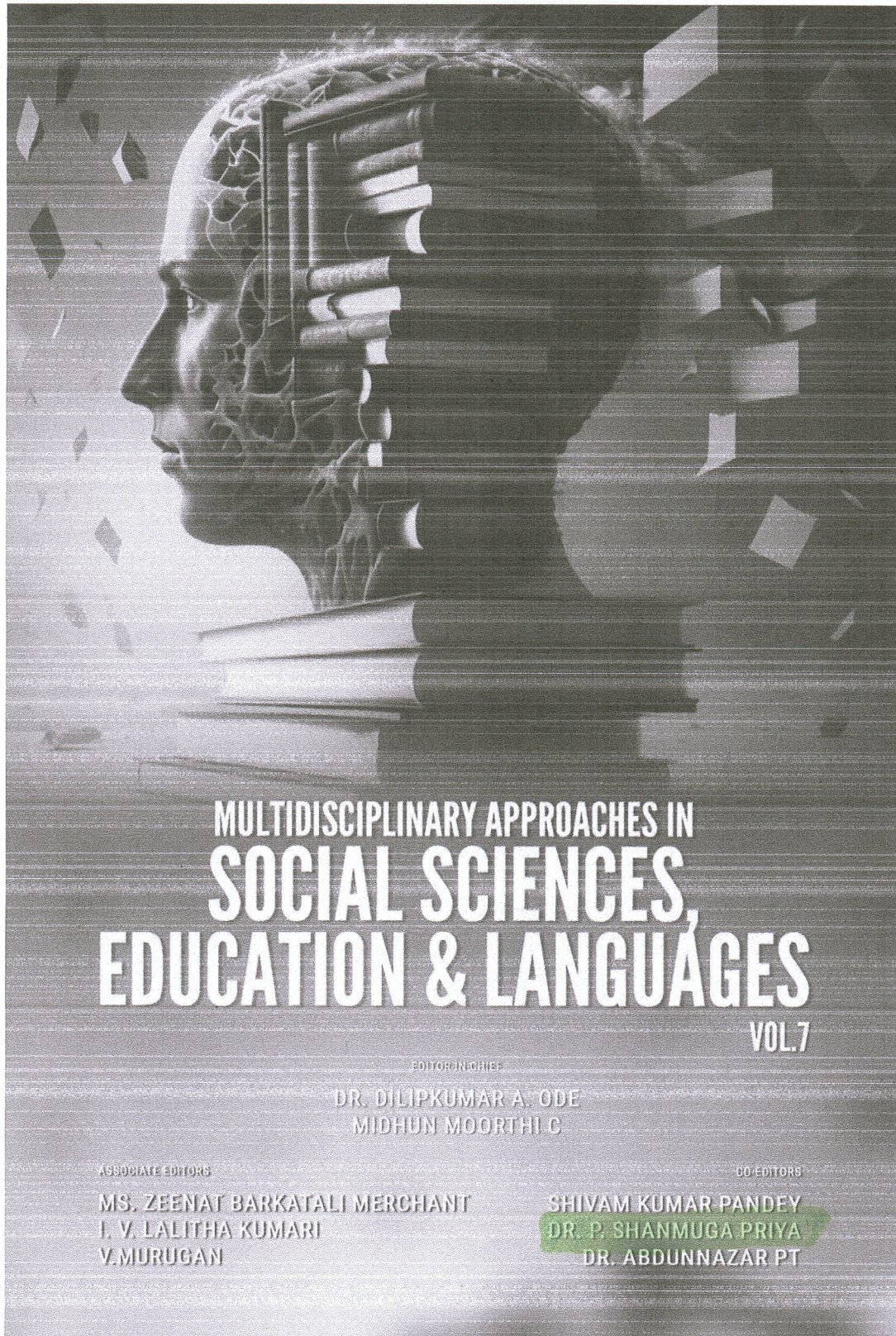
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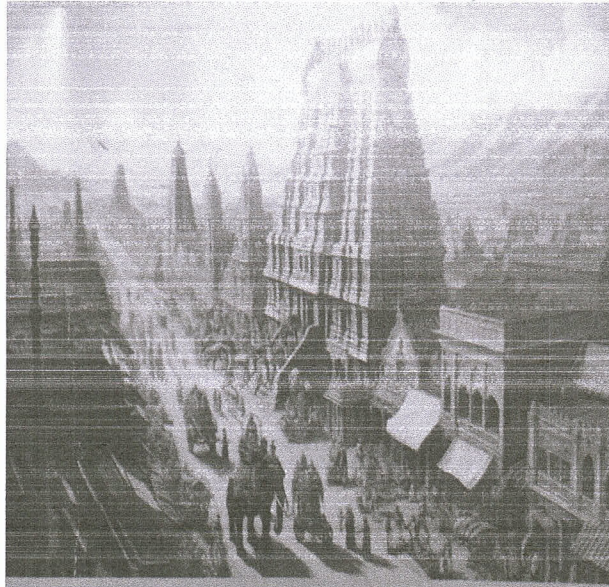

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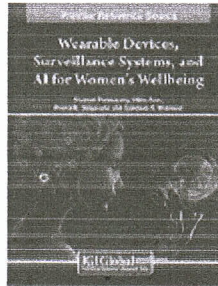



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wSafe24/7: Empowering Women's Personal Security Through Innovative Mobile and Wearable Technology: Computer Scienc...



wSafe24/7: Empowering Women's Personal Security Through Innovative Mobile and Wearable Technology

Kanimozhi Kannabiran (/affiliate/kanimozhi-kannabiran/466325/), Jenifer Mahilraj (/affiliate/jenifer-mahilraj/466326/), Rajalakshmi K.

Source Title: Wearable Devices, Surveillance Systems, and AI for Women's Wellbeing (/book/wearable-devices-surveillance-systems-women/335522)

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Abstract

Addressing women's safety is critical, and technology offers a solution. The wSafe24/7 smart security system leverages smartphones and wearables, enhancing personal security through both hardware and software. This user-friendly app enables users to send tracked locations and SOS messages, utilizing fingerprint scanning with or without sensors, and includes a virtual Bot feature. With dual security levels—user-activated and automatic triggers—the app prevents inaccurate distress identification and message transmission errors. The panic key activates vital modules like heart rate and temperature monitors, scream and fall detection, and accelerometers, employing fuzzy logic for effective response.

Chapter Preview

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Literature Review

Artificial Intelligence (AI) has an essential part in this particular domain. OMDENA, a worldwide platform, collaborated with Safe city, an anonymous but trustworthy crowd mapping platform, for the purpose of predictive modeling. They utilized the Safe city dataset for Mumbai and Delhi in order to determine the likelihood factors of safety and potentially dangerous areas depending on the information provided by users in various situations. Various techniques of modeling were used to layer data including infrastructure like schools, colleges, hospitals, cinema theatres, public parks and surrounding areas to get a sense of what risk factors might be involved. Correlations, common patterns and trends that could indicate problematic locations were done using AI.

The main aim of the woman safety alert system is to provide an immediate way to contact for help such as nearby police stations or relatives or users in the proximity by sending alert messages and tracking the location. This application can also be enhanced in the future in the form of smart gadgets like jewelry, mobile phones, watches etc.

The existing systems for women safety are discussed in the following.

The main problem in police investigating cases of female abuse resides in limitations that prohibit them from responding promptly to distress signals. These limitations include not knowing the exact location of the crime and evidence of crime. To identify the location of any person in trouble the authors have designed a wearable gadget, which would send the location and photo of the user to selected emergency numbers stored in database (Vijayashmi B., Renuka S., Pooja Chennur & Sharangowdia, 2022)

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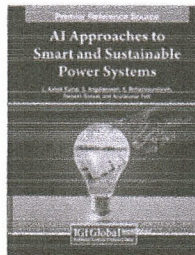


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Design of Novel Control Scheme for an Aquaponics System in Bioenvironment

Kanimozhi Kannabiran, J. Booma, S. Sathish Kumar

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Abstract

A recent study focused on the optimization of pH control in aquaponics systems by implementing various control strategies. Among the three approaches tested scheduled proportional-integral (PI) controller, nonlinear internal model controller (IMC), and H-Infinity Controller extensive simulations were conducted to assess their performance. The scheduled PI controller exhibited robustness in maintaining pH levels within the desired range under varying operating conditions. However, its performance was found to be slightly inferior to that of the Nonlinear IMC controller, which displayed superior adaptability to the local system dynamics, effectively handling nonlinearities in the pH regulation process. H-Infinity Controller showcased the most promising results, effectively minimizing the impact of uncertainties and disturbances on the pH regulation mechanism. Its robust control mechanism demonstrated remarkable stability and superior performance in maintaining the optimal pH levels for the aquaponics system. The findings provide insights for designing efficient control mechanisms.

Chapter Preview

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Introduction

Recent research has brought attention to the importance of decoupled aquaponics systems, emphasizing the utilization of distinct recirculating water loops. In



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