

Enhancing Cybersecurity in Embedded Systems

Drew Williams
PhD
Technion - Israel Institute of Technology
Technion City, Haifa 3200003, Israel

Taylor Jones
PhD
National University of Singapore
21 Lower Kent Ridge Rd, Singapore 119077

Kim King
PhD
Polytechnic University of Catalonia
C. Jordi Girona, 1-3, 08034 Barcelona, Spain

Abstract. Embedded systems are increasingly targeted by cyber threats due to their widespread use in critical applications. This paper explores advanced techniques for enhancing cybersecurity in embedded systems, focusing on encryption algorithms and secure hardware design. The study presents a comprehensive review of current challenges and solutions, providing insights into future trends and developments in embedded system security.

Keywords: Cybersecurity, Embedded Systems, Encryption, Hardware Security, Threat Mitigation

Introduction

The critical role of embedded systems in modern technology makes them a prime target for cyberattacks. Ensuring the security of these systems is paramount to protect sensitive data and maintain operational integrity. This paper delves into advanced cybersecurity techniques, including robust encryption methods and secure hardware design principles. We analyze current vulnerabilities and propose solutions to reinforce the security infrastructure of embedded systems. The paper also explores future trends in cybersecurity, emphasizing the need for continuous innovation to combat evolving threats.

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