

## IS340 Project Topic Suggestions

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Analysis of Insecure Code and Specific Improvements in _____ (pick a specific program)	Early Ransomware: The AIDS INFORMATION Disk
Applying Howard's Taxonomy to a Computer Crime: ___(choose one)___	Early Worms in 1960s Mainframes
Are Tokens a Reasonable Replacement for Passwords? Pros and Cons	Educating Children about Spam and Phishing
Attacks on Medical Information Systems: Cases and Technical Details	Educating Novice Internet Users about Advance-Fee Frauds
Attacks on PKI	Electromagnetic Pulse (EMP) Weapons: Myth or Reality?
Attacks on SCADA Systems: Methods and Defenses	Evolution and Evaluation of Hacker Conventions: HoHoCon, HOPE, DefCon, BlackHat
Backing Up to the Cloud: Benefits and Risks	Facebook Hacking: Protecting the Individual
Biography of Robert Tappan Morris: From Worm Farmer to Professor	Forging Radio Frequency Identification Tags
Bluetooth Security: Should You Turn Off Bluetooth Access on Mobile Devices?	From DARPA NET to the INTERNET: Why IPv4 Has No Security
Boot Sector Viruses and Early Defensive Strategies	From Signatures to Heuristics: Historical Changes in Antimalware Algorithms
Can Retinal Scans be Fooled? Technical Analysis and Discussion	I&A Through Fingerprints: The Gummy-Bear Attack and Implications for Law Enforcement
CAPTCHAS : Evolution, Application, Attacks and Defenses	Kevin Mitnick: From Criminal Hacker to Proselytizer
Chinese Industrial Espionage: Methods and Defenses	Mechanisms and Effectiveness of Facial Recognition Algorithms and Software
Chinese Information Warfare Doctrine and 21st Century National Security	New Developments in Antimalware Defenses
Classic Failures in Backup Practices: A Humorous Review of the Idiots Who Don't Backup Their Data and What Happened to Them	New Physical Locking Mechanisms and Their Vulnerabilities
Comparison of Methods for Secure Coding in _____ (pick a language)	Parallel Computing and Resistance to Brute-Force Cracking
Computer Crimes Exploiting Weak Security in Wireless Networks	Recent SIEM (Security Information and Event Management) Software Developments
Cracking DES	Recent Technical Improvements in Firewall Technology
Craig Neidorf: From Criminal Hacker to Journalist	Recent Technical Improvements in Intrusion Detection Technology
Credit-Card Security: Effective Fraud Prevention or Hoax?	Recent Technical Improvements in Intrusion Prevention Technology
Criticisms of the Parkerian Hexad	Recent Technical Improvements in Physical Security Mechanisms for Access Control
Current Deployment of PKI: Technical and Managerial Challenges	Recent Technical Improvements in Physical Security Mechanisms for Site Surveillance
Defending Websites Against Penetration and Unauthorized Modification	Secure Communications in Classical Greece and Rome
	Security Flaws in the _____ Operating System

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Security of Self-Driving Automobiles: Vulnerabilities, Risks and Defenses	The Latest Viruses: Internals and Effects
Should Passwords be Killed? Analysis of Costs and Effectiveness of Passwords	The Latest Worms: Internals and Effects
Spambots and Botnets: Technical Explanation of How Spam Gets Spread through the Internet	The Lehigh Virus of 1984
Technical Details of Breaking VPNs	The Microsoft Secure Programming Initiative: Motivation and Details
Technical Overview of Electronic Token-Based Authentication Methods	The Morris Worm: Code Analysis and Consequences
Technical Overview of Security of Implanted Medical Devices (see Prof Hansen's work)	The Role of Hacker Publications in Computer Crime: Pro or Con?
Technical Overview of Windows OS Security versus MacOS Security	The Sandbox as a Defense Against Malicious Mobile Code
Technical Review of Storage-Encryption Tools for Windows / Mac / *nix / Android / iOS / ... [pick one]	The Smart Electrical Grid: Benefits, Risks and Defenses Against Hacking
Techniques for Wi-Fi Hacking	The Syrian Electronic Army: INFOWAR in Action
Technical Overview of Windows OS Security versus *nix Security	The Vladimir Levin Case: Technology and Prosecution
The Latest Phishing Attacks: Internals and Effects	Typing-Dynamics as a Tool for I&A: Pros and Cons
The Latest Trojans: Internals and Effects	VoIP Security: Methods for Securing Communications on Skype / AIM / etc. (choose one)
	Vulnerabilities of Wireless Networks and Technical Defenses
	War Driving and Early Criminal Hacking

THESE ARE JUST SUGGESTIONS! You have complete liberty to propose any topic that interests you and that includes technical aspects of computer security. And don't hesitate to chat with the prof – he can usually help you come up with something that you'll enjoy researching based on your initial interests.

