# Daniel Socek, Ph.D.

*Résumé*

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## 1. Fields of Specialization and Interest

- Biometrics, Cryptography, Multimedia Security, Information Security and Secure Communications, Image/Video Coding and Analysis, and FPGA-based System Design

## 2. Educational Background

- 01/2003 to 08/2006 Ph.D. in Computer Science
  *Florida Atlantic University*, Boca Raton, Florida 33431(USA)
- 01/2001 to 12/2002 M.Sc. in Mathematical Sciences
  *Florida Atlantic University*, Boca Raton, Florida 33431 (USA)
- 08/1996 to 12/2000 B.Sc. in Computer Science
  *University of Nebraska – Lincoln*, Lincoln, Nebraska 68588 (USA)

## 3. Employment History

- 01/2006 to present Director of Research
  *CoreTex Systems, LLC*, Boca Raton, Florida 33432
- 09/2006 to present Post-Doctoral Research Assistant Professor
  Department of Computer Science and Engineering
  *Florida Atlantic University*, Boca Raton, Florida 33431
- 01/2003 to 08/2006 Research Assistant (Secure Telecommunications)
  *Florida Atlantic University*, Boca Raton, Florida 33431
- 05/2002 to 08/2002 System and Security Administration (Internship)
  *IBM Corporation*, IBM Global Services, Phoenix, Arizona 85018
- 07/2001 to 09/2001 Cryptographic Software Developer
  *Avaton, Inc.*, New York City, New York 10150-1243
- 05/2001 to 06/2001 Consultant for NTRU Public-key Cryptosystem Technologies
  *Matsushita Electric Industrial, Co.* (Panasonic), Japan
- 01/1997 to 08/2000 Research Assistant (Cryptography and Security)
  Department of Computer Science and Engineering
  *University of Nebraska – Lincoln*, and *Crypton Inc.*, Lincoln, NE 68588

## 4. Computing Experience

1. **Programming:** C/C++, VB, Java, VHDL, Assembly, JavaScript, XML, XHTML and CSS
2. **Programmable Environments:** MATLAB, Xilinx, MS Visual Studio, Dreamweaver, Maple, APL, MS Office, LaTex

## 5. Commercial and Research Projects

| Client | Project Description | Involvement |
|---|---|---|
| Real Networks, Inc. | Research and development of novel methods for coding of binary shapes and shape regions in digital videos | * Led the development and investigation of methods for coding of binary shapes and shape regions in digital videos<br>* Developed C/C++ software-based codec. |
| US Navy | Investigation of technologies for automated video surveillance including object detection, tracking and classification. | * Researched various algorithms and techniques involved in video surveillance<br>* Developed MATLAB and C/C++ implementation of proposed algorithms |
| CoreTex Systems, LLC | Development of VHDL-based hardware design of cryptographic IP cores, and research and development of technology for securing biometric templates. | * Implemented compact and fast versions of AES, DES and 3DES symmetric-key cryptosystems and SHA and MD-5 hashing algorithms in VHDL.<br>* Performed research, documented and implemented technology for storing biometric templates securely. Developed C/C++ libraries for Windows and Linux platforms. |
| BCAC, Corp. | Development of full Web-based database-driven system for medial insurance claims. | * Developed ASP.NET-based system for a large medical insurance company. |
| Crypton, Inc. and Avaton, Inc. | Development of software packages utilizing a novel symmetric block cipher based of non-Abelian groups. | * Led the commercial software development project. The project involved full GUI deliverables for Windows and Linux platforms. |

## 6. Academic Recognitions, Honors, and Awards

- 2004-2005 The Daniel B. Newell and Aurel B. Newell Doctoral Fellowship ($5,000.00)
- 2003-2004 Graduate Fellowship for Academic Excellence ($5,000.00)

## 7. Publications and Patents

Authored or co-authored 1 book, 2 book chapters, 8 journal articles, 15 refereed conference publications, 2 technical reports.

Holds 1 patent (Daniel Socek, Hari Kalva and Spyros S. Magliveras, "Methods for encrypting and compressing video", Patent #20070291941).