

NAME AND CONTACT INFORMATION

Sayonnha Mandal | College of Information Science & Technology
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EDUCATION

2013 - Present | PhD Student in Information Technology | *University of Nebraska, Omaha*

2012 | MS in Telecommunications Engineering | *University of Oklahoma*

2009 | Bachelors in Technology in Electronics and Communications Engineering | *WBUT*

RESEARCH EXPERIENCE

2013 – PRESENT | Graduate Research Assistant (PhD) | University of Nebraska, Omaha, USA

- Requirements analysis of **NIST** Software Assurance controls and understanding mapping between controls and Common Weakness Enumeration (**CWEs**)
- Developed A Framework for Analyzing Federal Regulations (**FISMA**) for Information Security
- Generating repeatable text extraction methods from regulatory documents using annotational semantics and text extraction processes
- Current research focus on improving the understanding of regulatory security requirement and their traceability to low-level flaws

2010-2012 | Graduate Research Assistant | *University of Oklahoma, Tulsa, USA*

- Implementation of Three-Stage Protocol over Free Space Optics in Hardware: Using Passive Optical Devices and applying Labview Programming, realization and implementation of one of the recent quantum key distribution protocols (The Three-Stage Protocol) utilizing Free Space Optics concepts in the field of Quantum Cryptography
- Design & Implementation of several Quantum key distributions (QKD) protocols in Optic Lab.

- Investigation of MagiQ and IDQ QKD systems (hardware, software)

2005-2009 | Bachelors in Technology | *B. P. Poddar Institute of Technology, WBUT, Kolkata, India*

- Modulation and Demodulation Schemes Using MATLAB Simulink and VHDL code
- FPGA realization and Implementation of the ASK,BPSK, FSK and QPSK schemes in a single universal circuit structure using MATLAB Simulink models and VHDL software coding

TEACHING EXPERIENCE

2012-2013 | Assistant Professor | *Electronics and Communication Engineering, Calcutta Institute of Engineering and Management, Kolkata, India*

- Courses taught in Electronics and Communication
- Courses include Analog Communication, Control Systems and EDA for VLSI design, Basic Electrical and electronics, Information Theory and Coding, Internet Systems, Control Systems

PROFESSIONAL EXPERIENCE

2010 | Programming Analyst | *Cognizant Technology Solutions, Chennai, India*

- Assigned in the Mainframe domain with vertical as Insurance- Problem solving, C and Database Management Systems, Software Quality Management System and Software testing as the Process and Quality modules

2007, 2008 | Internship Training | *Cell One, Technical Center, CTTC, Simoco Telecom, Kolkata, India*

- GSM, IN and GPRS
- Production, Fabrication, Quality Control/Assurance/GPRS of mobile wireless systems

PROFESSIONAL AFFILIATIONS

2005 –present | Member of Indian Science Congress

PUBLICATIONS

- Robin A. Gandhi, Keesha Crosby, Harvey Siy, **Sayonaha Mandal**, "Gauging the Impact of FISMA on Software Security," Computer, vol.47, no.9, pp.103,107, Sept. 2014, doi: 10.1109/MC.2014.248, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6898784&isnumber=6898684>

- **Sayonaha Mandal**, Nagadivya Veldanda, “Mitigating Evil Twin Attacks in 802.11” accepted and presented at the International Conference on Information Warfare And Security, ICIW 2012, Seattle, Washington.
- **Sayonaha Mandal**, Farnaz Zamani, Pramode K.Verma, “A Three-stage Phase Encoding Technique for Quantum Key Distribution” accepted at IEEE 2012 International Conference on Security and Management, Las Vegas, Nevada.
- **Sayonaha Mandal**, et al., “Implementation of Unconditionally Secure Quantum Protocol over Free-Space Optics”, accepted at IEEE International Conference on Information Networking 2013, Bangkok, Thailand.
- **Sayonaha Mandal**, Abhishek Parakh, “ Implementing Diffie-Hellman Key Exchange using Quantum EPR Pairs”, submitted at SPIE 2015.

REVIEWER

- Have served as reviewer for the International Journal of Security and Networks (IJSN)
- Have served as reviewer for HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES (HICSS)

AWARDS

- 4.0 GPA at the University of Oklahoma, Tulsa, Oklahoma, USA
- Winner of Graduate Level Poster competition at MINK WIC 2013 at Kansas City, Missouri
- Graduate Level Poster Participant at Women in Cybersecurity conference 2014 at Nashville, Tennessee
- Graduate Level Poster Participant at Women in Cybersecurity conference 2015 at Atlanta, Georgia
- Awarded National Merit Scholarship Under Government of India
- General Proficiency 1st Prize from Secondary till High School

REFERENCES

Dr. Robin Gandhi | Associate Professor of Information Assurance
 Nebraska University Center on Information Assurance (NUCIA)
 School of Interdisciplinary Informatics (Si2)

University of Nebraska, Omaha
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Dr. Pramode Verma | Director Telecommunications Engineering Program
Professor of Electrical and Computer Engineering
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Dr. Robert Huck | Faculty and Interoperability Lab Manager
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Dr. William Mahoney | Director, Information Assurance
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