

HEC Approved Ph.D Supervisor
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Education

- PhD in Applied Computer Science (Cum Laude --- with honor)** Sept, 2012
Georg-August-Universität Göttingen, Germany.
Major: Networks and Information Security.
Thesis: “*Leveraging Email based Social Networks to Prevent Spam: Framework, System Design and Evaluation*”.
- MSc, Media Informatics (Very Good, CGPA: 1.7)** 2008
RWTH Aachen, Germany.
Major: Communication and Information Security.
Thesis: “*Evaluation and Improvement of Security in ZigBee Networks*” in collaboration with **Philips Research Labs Aachen.**
- B.S, Computer Science (Summa Cum Laude, CGPA: 3.95, German equivalence: 1.05)** 2005
Mohammad Ali Jinnah University, Pakistan.
Major: Computer Science.
Final Project: “*EPOS (Electronic Point of Sale System)*” for Chase departmental store.
- FSc --- Intermediate (Grade: A-one Marks: 908/1100 Percentage: 82.54%)** 2002
Adamjee Government Science College, Karachi.
- Matric --- 10th grade (Grade: A-one Mark : 737/850 Percentage: 87%)** 2000
Shaheen Public School, Karachi.

Publications

Book Chapter(s)

1. **Raspberry Pi Based Lightweight and Energy-Efficient Private Email Infrastructure for SMEs**, Sufian Hameed, Muhammad Arsal Asif, In Information Innovation Technology in Smart Cities, Springer ISBN 978-981-10-1741-4.

Peered Review International Journal

2. **HADEC: Hadoop based Live DDoS Detection Framework**, Sufian Hameed, Usman Ali, Elsevier Journal of Computer Communications ISSN: 0140-3664 (under review).
3. **Towards Software Defined Internet of Things: A Review of Management Frameworks and Open Challenges**, Faraz Idris Khan, Sufian Hameed, Elsevier Journal of Computer Networks ISSN: 1389-1286 (under review).
4. **The Art of Crypto Currencies: A Comprehensive Analysis of Popular Crypto Currencies**, Sufian Hameed, Sameet Farooq, International Journal of Advanced Computer Science and Applications (IJACSA), Volume 7 Issue 12 December 2016, ISSN: 2158-107X (accepted).
5. **A Centralized Reputation Management Scheme for Isolating Malicious Controllers in Distributed Software-Defined Networks**, Bilal Karim Mughal, Sufian Hameed, Ghulam Muhammad Shaikh, International Journal of Advanced Computer Science and Applications (IJACSA), Volume 7 Issue 12 December 2016, ISSN: 2158-107X (accepted).
6. **Software Defined Security Service Provisioning Framework for Internet of Things**, Faraz Idris Khan, Sufian Hameed, International Journal of Advanced Computer Science and Applications (IJACSA), Volume 7 Issue 12 December 2016, ISSN: 2158-107X (accepted).

7. **Fighting Spam Using Social GateKeepers**, Sufian Hameed, Xiaoming Fu, Pan Hui and Nishanth Satry, Networking Science, Springer Verlag, Tsinghua Press, 2013, 2, 28-41.

Peered Review Conferences/Workshops

8. **Leveraging SDN for Collaborative DDoS Mitigation**, Sufian Hameed, Hassan Ahmed Khan, In SDNFlex in conjunction with the International Conference on Networked Systems Goettingen, Germany, 13-17 March 2017 (to appear).
9. **Securing Software Defined Networks Against Rogue Controllers**, Faraz Idris Khan, Ahmed Sohail, Muhammad Saad Saleem, Humza Bin Javed, Moiz Farhat Tainuri and Sufian Hameed, In International Conference on Cyber Security and Digital Forensics (CSDiFO), Islamabad, Pakistan, 7-8 December 2016.
10. **Protecting NFC Data Exchange against Eavesdropping with Encryption Record Type Definition**, Sufian Hameed, Usman Murad Jamali, Adnan Samad, In 15th IEEE/IFIP Network Operations and Management Symposium (NOMS) Istanbul, Turkey, 25-29 April 2016.
11. **Efficacy of Live DDoS Detection with Hadoop**, Sufian Hameed, Usman Ali, In 15th IEEE/IFIP Network Operations and Management Symposium (NOMS) Istanbul, Turkey, 25-29 April 2016.
12. **PiMail: Affordable, Lightweight and Energy-Efficient Private Email Infrastructure**, Sufian Hameed, Muhammad Aarsal Asif, Farhan Kamal Khan, In 11th International Conference on Innovations in Information Technology (IIT'15) Dubai, UAE, 1-3 November 2015.
13. **Integrity Protection of NDEF Message with Flexible and Enhanced NFC Signature Records**, Sufian Hameed, Usman Murad Jamali, Adnan Samad, In 14th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom 2015) Helsinki, Finland, August 2015.
14. **Lightweight Security Middleware to Detect Malicious Content in NFC Tags or Smart Posters**, Sufian Hameed, Bilal Hameed, Syed Atyab Hussain, Waqas Khalid, 7th IEEE International Symposium on Security, Privacy and Anonymity in Internet of Things (SpaIoT 2014) in conjunction with 13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom 2014) Beijing, China, September 2014.
15. **Efficacy of Object-Based Passwords for User Authentication**, Sufian Hameed, Lamak Qaizar, Shankar Khatri, 4th International Conference on Computer & Emerging Technologies (ICCET), Khairpur Mirs, Pakistan, March 2014.
16. **ClickSafe: Providing Security against Clickjacking Attacks**, Jawwad Shamsi, Sufian Hameed, Waleed Rehman, Farooq Zuberi, Kaiser Altaf, Ammar Amjad, 15th IEEE International Symposium on High Assurance Systems Engineering (HASE), Miami, Florida, USA, January 2014.
17. **SafePass: Authentication under Duress for ATM Transactions**, Sufian Hameed, Syed Atyab Hussain, Sohail Hussain Ali, 2nd National Conference on Information Assurance, Rawalpindi, Pakistan, December 2013.
18. **Identity Based Email Sender Authentication for Spam Mitigation**, Sufian Hameed, Tobias Kloht, Xiaoming Fu, 8th IEEE International Conference on Digital Information Management (ICDIM), Islamabad, Pakistan September 2013.
19. **Evaluation of Human Altruism Using a DTN-based Mobile Social Network Application**, Sufian Hameed, AlexanderWolf, Konglin Zhu, Xiaoming Fu, 5th workshop on Digital Social Networks (DSN 2012) in conjunction with Gesellschaft für Informatik (GI 2012), Braunschweig, Germany, September 2012.
20. **iSATS: Leveraging Identity Based Sender Authentication for Spam Mitigation**, Sufian Hameed, Tobias Kloht, Xiaoming Fu, 7th International Conference on Security and Cryptography (Secrypt), Rome, Italy, July 2012.
21. **LENS: Leveraging Social Networking and Trust to Prevent Spam Transmission**, Sufian Hameed, Xiaoming Fu, Pan Hui and Nishanth Sastry, The Second IEEE Workshop on Security and Trust in the Future Internet (FIST'11), Co-located with IEEE ICNP 2011, Vancouver, BC Canada, October 2011.

22. **Leveraging Social Networking and trust to prevent Spam transmission**, Sufian Hameed, Pan Hui, Xiaoming Fu, Nishanth Sastry, 5th ACM EuroSys Doctoral Workshop (EuroDW 2011), Salzburg, Austria, April 2011.

Technical Reports

23. **On the Efficacy of Live DDoS Detection with Hadoop**, Sufian Hameed, Usman Ali, Technical Report No. [arXiv:1506.08953v1](https://arxiv.org/abs/1506.08953v1), arXiv.org, 30th June 2015.
24. **LENS : LEveraging social Networking and trust to prevent Spam transmission**, Sufian Hameed, Pan Hui, Xiaoming Fu and Nishanth Sastry, Technical Report No. IFI-TB-2011-02, Institute of Computer Science, University of Göttingen, Germany, ISSN 1611-1044, February 2011.

Theses

25. **Leveraging Email based Social Networks to Prevent Spam: Framework, System Design and Evaluation**, Sufian Hameed, PhD Dissertation, Georg-August-Universität Göttingen, Mathematisch-naturwissenschaftliche Fakultäten, 2012-09-06.
26. **Evaluation and Improvement of Security in ZigBee Networks**, Sufian Hameed, Master Thesis, *Philips Research Labs Aachen*, DS group Aachen, June 2008.

Patent(s)

Title: **Method and system for forming a network for spam free communication, in particular e-mail communication.**

Date of Publication: 27.10.11

Application Number: WO/2011/131228

Publication Number: CT/EP2010/055183 also published as DE112010005508T5

Professional Experience

National University of Computer and Emerging Sciences (FAST-NU)

Designation: Assistant Professor Since Jan 2013
Acting HoD (Aug-Sept 2016)
Member GSC Committee
MS Coordinator Fall 2013- Spring 2014

Computer Networks Group, Georg-August-Universität Göttingen, Germany

Designation: Research Assistant Sept, 09 – Sept, 12

Achievements: My work at Göttingen focused primarily on design, implementation and performance evaluation of a novel Spam prevention mechanism under the project of [LENS: Leveraging Social Networking and Trust to Prevent Spam Transmission](#). LENS mitigates spam earlier at the sender's edge. LENS leverages the social network of the recipient and allow the socially related users to send emails directly. The key idea in LENS is to let user select legitimate and authentic users, called Gatekeepers (GKs), from outside their social circle and within pre-defined social distances. Unless a GK vouches for the emails of potential senders from outside the social circle of a particular recipient, those e-mails are prevented from transmission. This way LENS drastically reduces the consumption of Internet bandwidth by spam to control messages only.

I was also involved in two other research projects. One was related to Spam prevention using email sender authentication and trust ([iSATS: Leveraging Identity Based Sender](#)

[Authentication and Trust for Spam Mitigation](#)) and the other was the experimental study of human altruism using smart phone apps ([Evaluation of Human Altruism with DTN based Data Forwarding](#)). I was also involved in conducting labs and supervising seminars, bachelors and masters thesis.

Deutsche Telekom Labs, Berlin, Germany

Designation: Research Intern Nov, 09 – March, 10
Achievements: My work at T-labs provided the basis to start the project LENS. I was involved in the initial brainstorming, design and initial feasibility evaluations of novel social network based Spam prevention system *LENS*.

Philips Research Labs, Aachen, Germany

Designation: Student Researcher Oct, 07 – April, 08
Achievements: Involved in the development of a security simulator for IEEE 802.15.4/ZigBee for mobile wireless sensor networks. Based on this simulator worked on the testing, evaluation and improvement of different security protocols for resource constrained wireless sensor nodes.

FIT ICON, Fraunhofer, Sankt Augustin, Germany

Designation: Student Intern Oct, 06 – Jan, 07
Achievements: During this praktikum following project was completed.
Customer Relationship Management Tool for Sales Department
The goal of the project was to develop a CRM Tool which accesses cross-platform Web-services in a SOA. The technologies used were Java, C#, Eclipse, VS2005, MySQL and MS-SQL Server 2005

Information Systems Group (I5), RWTH Aachen, Germany

Designation: Student Intern April, 06 – July, 06
Achievements: During this Internship following projects were completed using C#, VS 2005 and MS-SQL Server 2005.

- *A Web Service interface for the I5 Publication Database*
- *An integrated Web Service interface for Publication Databases*
Developed an integrated web service, which provides access to the I5 Publications, CiteSeer, and DBLP web services via a uniform query interface
- *Conference Management System*
Developed a complete conference management system with all the functionalities and roles management

Designation: Student Hiwi Sept, 07 – Nov, 07
Achievements: Worked on Mobile Afghan Community Information System (*ACIS*) light version of *ACIS* for mobile devices and smart phones. I worked on following tasks

- Code Refactoring
- UI Design Improvement
- Maps Generation and Display
- Site Image display

PhD Supervision

1. Faraz Idris Khan: working on Software Defined Internet of Things
2. Jalal Bhayo: working on Secure Internet of Things

MS/BS Thesis and Final Year Project (FYP) Supervision

1. Master Thesis: **Big Data Analytics for Security**, Hafiz Asadullah, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2017 (expected).
2. Master Thesis: **Live Detection of DDoS Attacks**, Munawar Ali, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2017 (expected).
3. FYP: **Neuro-Sec: A Self Learning Web Security Framework**, Abdullah Shahbaz, Murtaza Ali, Moazzam Mirza, Humble Imran, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2017 (expected).
4. FYP: **Secured and Fine Grained Data Access Control in Cloud Using Attribute Based Encryption**, Sahir Noor Ali, Ali Azim Karim Ali, Rahim Khalid, Saifullah, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2017 (expected).
5. Master Thesis: **Lightweight and Efficient Data Integrity In Mobile Cloud Computing**, Moiz Ali, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2016
6. Master Thesis: **Vulnerability Analysis and Computational Integrity in Mobile Cloud Computing**, Malik Lalani, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2016
7. Master Thesis: **Leveraging SDN for the Mitigation of DDoS**, Hassan Ahmed Khan, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2016
8. FYP: **Security Framework for Mobile Cloud e-Health Application**, Muhammad Aarsal Asif, Syed Aibad Nabi Hashmi, Jarri Ahmed Abidi, Farhan Kamal Khan, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2016.
9. Master Thesis: **Lightweight Middleware for Integrity in NFC**, Adnan Samad, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
10. Master Thesis: **Lightweight Middleware for Confidentiality in NFC**, Usman Murad Jamali, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
11. Master Thesis: **Tracking/Monitoring of Data in Cloud and Secure Self Destruction**, Anwar Mehmood, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
12. Master Thesis: **Efficient detection of DDOS attacks with Map-Reduce**, Usman Ali Tanoli, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
13. FYP: **Safe-Route**, Muhammad Yasir, Khuda Dad, Taveer Hussain, Bhavesh Kumar, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
14. Master Thesis: **Efficient Security Provisioning in Smart Real Time Factories**, Sooraj Kumar, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
15. Master Thesis: **Fine Grained Security of Financial Records on Public Cloud**, Hassan Raza Khan, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2015.
16. Master Thesis: **Evaluation and Improvement of Security in E-Banking**, Muhammad Mohiuddin, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Fall 2014.
17. FYP: **Light-Weight Security Framework for Contact-less Communication with NFC enabled tags and Credit Cards**, Syed Atyab Hussain, Sohail Hussain Ali, Abdul Mannan Qureshi, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.
18. FYP: **SMART Healthcare using Near Field Communication**, Saad Ahmed Siddiqui, Abdul Majid Khan, Aadil Damani and Alfian, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.

19. FYP: **SDN based Security Applications for Enterprise Networks**, Sarim Javed khan, Saba, Sahar Imtiaz and Muhammad Haris, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.
20. FYP: **Secured Framework for E-voting and Trustworthy Identification**, Zain Maqbool, Sarmad Saeed, Mohsin Ali and Maaz, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.
21. FYP: **S2A Web Application Vulnerability**, Saadatullah Siqqiqui, Awais Tariq and Muhammad Aqib, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.
22. Master Thesis: **Security Related Threats in Near Field Communication Devices**, Muhammad Waqas Khalid, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2014.
23. Master Thesis: **Security Mechanisms for Mobile Cloud Computing**, Syed Muhammad Umair, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2013, (Co-Supervisor).
24. FYP: **ClickSafe: A clickjacking detection and Mitigation tool Based on User Feedback**, Ammar Amjad, Farooq Zuberi, Kaiser Altaf and Waleed Rehman, National University of Computer and Emerging Sciences (FAST-NUCES), Pakistan, Spring 2013, (Co-Supervisor).
25. Bachelor Thesis: **Evaluation of Human Altruism with DTN based data forwarding**, Alexander Wolf, Center of Computational Sciences, University of Göttingen, Germany, ISSN 1612-6793, No. ZAI-BSC-2012-03, February 2012.
26. Bachelor Thesis: **Leveraging Identity-based Authentication for Email Sender Authentication**, Tobias Kloht, Center of Computational Sciences, University of Göttingen, Germany, ISSN 1612-6793, No. ZAIBSC-2011-18, October 2011.

Teaching Experience

Courses (FAST-NUCES)

- Network Security (Fall 2016)
- Advanced Computer Networks (Fall 2016)
- Computer Networks (Spring 2016)
- Network Security (Fall 2015)
- Advanced Computer Networks (Fall 2015)
- Cyber and Network Security (Spring 2015)
- Computer Networks (Spring 2015)
- Advance Computer Networks (Fall 2014)
- Information System Security (Fall 2014)
- Computer Networks (Spring 2014)
- Network Protocols and Standards (Spring 2014)
- Information Systems Security (Fall 2013)
- Advance Operating Systems (Fall 2013)
- Routing and Switching (Fall 2013)
- Network Security (Spring 2013)
- Advance Computer Architecture (Spring 2013)

Seminar (Independent Study) Supervisor (Georg-August-Universität, Göttingen)

- Smartphones Malware Propagation and detection (SS 2012)
- Security and Privacy in Delay Tolerant Networks (WS 2011/2012)
- Fighting Spam in Social Networking Sites (WS 2010/2011)
- Security Threats of Online Social Networks (SS 2010)

Teaching Assistant

- *Practical Course Networking Lab* (SS 2011, WS 2010/2011, SS 2010)
Georg-August-Universität, Göttingen
- *Computer Programming* (Summer/Fall 04)
Mohammad Ali Jinnah University, Karachi

Honors and Awards

- HEC Conference Visit Grant to attend 15th IEEE/IFIP Network Operations and Management Symposium (NOMS) Istanbul, Turkey, 25-29 APRIL 2016.
- HEC Conference Visit Grant to attend 13th IEEE TrustCom 2014, Beijing, China
- Received National Grassroots ICT Research Initiative (2013-2014) grant for my FYP titled "**Smart HealthCare using NFC**"
- HEC grant under Interim Placement of Fresh PhDs Program (IPFP)
- EuroSys 2011 Travel Grant
- *Master's Scholarship*, RWTH Aachen (Oct, 06-March, 08).
The Scholarship is awarded to one person from the Master's program each year.
- *Distinction*, BS.Computer Science, Mohammad Ali Jinnah University.
Awarded full scholarship throughout my bachelor degree on the basis of consistent good academic record.

References

1. **Prof. Dr. Xiaoming Fu**
Head of Computer Networks Group
Institute of Computer Science
Georg-August-University of Göttingen
2. **Prof. Dr. Dieter Hogrefe**
Head of Telematics Group, Institute of Computer Science
Dean, Faculty of Mathematics and Computer Science
Georg-August-University of Göttingen
3. **Dr. Pan Hui**
Director SyMlab, HKUST, Hong Kong
Distinguished Scientist T-Labs, Berlin, Germany
4. **Dr. Oscar Garcia Morchon**
Research Scientist
Philips Research Labs Eindhoven