PhD in Information Technology and Electrical Engineering
Università degli Studi di Napoli Federico II

PhD Student: Danilo Gentile

Cycle: XL

Training and Research Activities Report

Year: First

Student

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Prof.

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Tutor: Prof. Alessio Botta

Co-Tutor: Dr. Luigi Gallo

Date: October 24, 2025

1. Information:

- ➤ **PhD student: Gentile Danilo**
- ➤ **DR number: 999876**
- ➤ **Date of birth: 25/06/1991**
- ➤ **Master Science degree: Ingegneria Informatica**
  University: Università degli studi di Napoli Federico II
- ➤ **Doctoral Cycle: XL**
- ➤ **Scholarship type: no scholarship**
- ➤ **Tutor: Prof. Alessio Botta**
- ➤ **Co-tutor: Dr. Luigi Gallo**

2. Study and training activities:

Activity	Type[1]	Hours	Credits	Dates	Organizer	Certificate[2]
Study of the state of the art, developing of software on phishing data analysis, writing of the paper on phishing data analysis, contributed to the writing of the paper on the Implicit Association in phishing, analysis of the psychological correctness of questionnaires on phishing	**Research**	/	**34,9**	/	/	/
Dalla Tradizione all'Innovazione: Il Viaggio Digitale – Sfide ed opportunità che la trasformazione digitale può offrire	**Seminar**	**4**	**0.8**	**20/11/2024**	**Prof. Mario Pagano**	**Y**
Opportunità e Prospettive dell'AI Generativa nel mondo del Lavoro e della Ricerca - Tavola Rotonda "Special Lectures"	**Seminar**	**3,5**	**0.7**	**29/01/2025**	**Prof. Davide Marocco**	**N**

How to boost your Ph.D.	Ad-hoc Course	18	5	8/1/2025 – 12/2/2025	Prof. Antigone Marino	Y
Scientific Programming and Visualization with Python	Ph.D. Course – DiSt dep.	30	3	28/1/2025 – 11/3/2025	Prof. Landolfo	Y
Big Data Architecture and Analytics	Ad-hoc Course	20	5	7/3/2025 – 28/3/2025	Prof Giancarlo Sperlì	Y
Springer Nature Webinars: 1) The Importance of Research Data 2) AI & Scientific Writing 3) Benefits of OA & Springer Nature 4) How do Journals Operate 5) How to Promote Your Research 6) Real-world Examples of Submissions 7) Research Integrity	Seminar	7	1.4	14/5/2025 – 18/6/2025	Springer Nature	Y
20th TAROT Summer School on Software Testing	Ph.D. School	33	4	30/6/2025 – 04/07/2025	Prof. Valentina Casola	Y
Summer Ph.D. School of Information Engineering "Silvano Pupolin" SSIE 2025	Ph.D. School	30	5	7/7/2025 – 11/07/2025	Prof. Marco Giordani	Y
IEEE Authorship and Open Access Symposium: Tips and Best Practices to Get Published from IEEE Editors	Seminar	1,5	0.3	15/10/2025	IEEE	Y
Guardians or Threats? AI at the Frontlines of Cybersecurity (4h on Fri, 17th Oct)	Seminar	4	0.8	17/10/2025	Prof. Antonia Maria Tulino	Y
AI Powered User interface design	Seminar	4	0.8	24/10/2025	Prof. Antonia Tulino	Y

1) Courses, Seminar, Doctoral School, Research, Tutorship
2) Choose: Y or N

2.1. Study and training activities - credits earned

	Courses	Seminars	Research	Tutorship	Total
Bimonth 1		0.8			0.8
Bimonth 2		0.7	15		15.7
Bimonth 3	5		8.5		13.5
Bimonth 4	8	0.2	1,8		10
Bimonth 5	9	1.2	0		10.2
Bimonth 6		1.9	7.9		9.8
Total	22	4.8	33.2	/	60
Expected	30 - 70	10 - 30	80 - 140	0 – 4.8	

3.   Research activity:

The email service has been one of the most consistently used services since its birth, both for personal communications and for company business. As systems become increasingly robust, the human behind the system is often not sufficiently trained. Attackers recognized it, and started targeting the human behind the system, specializing in tricks to make the user fall that are both technical and psychological.

Some tried to protect the human through the use of technological solutions, but the growing attention to human factor in phishing in scientific literature shows that this is not achievable without taking in consideration the human psychology when reading a phishing email.

In fact, there is the need to understand the relation between phishing susceptibility and users' background, and how do certain attack strategies increase the deceiving potential. That is the goal of a new branch of cyber security called cyber psychology or behavioral cybersecurity (W.Patterson), which is a science born from the combination of computer science and behavioral psychology.

My research activity is primarily focused on:

- first, uncover behavioral patterns, to find which user characteristics make for a more vulnerable or more robust user;
- second, determining which attack strategies are the most effective at increasing the chance of success of an attack in the general case;
- third, if there are some attack strategies that are more effective with certain users and less effective with others, with particular attention to the cognitive vulnerability aspect of both humans and emails.

Literature on this branch of cyber security has seen an explosion of new papers and venues, opening many opportunities to dive deep into the subject. That's why in my first year of Ph.D. I have been focusing on studying the most authoritative papers on human factor in phishing. Among the most influential figures in cyber psychology there are Nicola Zannone and Luca Allodi. Studying their research offers great insights on the subject and on the correct methodology for conducting this kind of research, which I am employing in my own research.

My research activity aims at providing the scientific community with reliable data on the cyber psychology aspect of phishing, determining which cognitive attacks are most effective, considering the individual peculiarities of the subjects.

4. Research products:

Works currently under submission

- Unveiling Phishing: a Study on Attack Strategies and User Decision-Making
- Unmasking Implicit Cognitive Biases in Phishing Recognition

5. Conferences and seminars attended

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6. Activity abroad:

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7. Activity in partner companies:

I am doing a Ph.D. without scholarship, as I am currently employed in the cyber security department of the Fibercop S.p.A. company. Specifically, my role in the company is related to the training in the subject of Cyber Security of the company population (of about 18'000 employees and managers), choosing the appropriate training materials, conducting white phishing campaigns and deriving results on the level of cyber security awareness. This has allowed me to design ethical phishing campaigns in my company that could synergize with the research I am doing for my Ph.D., for example by using the same attack strategies employed in Spamley, and searching for commonalities and differences in behavior between users of Spamley and of the company.

8. Tutorship

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