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## Education

- 2017–present **PhD candidate, Information Engineering and Computer Science**, *University of Trento*, Italy,  
Software supply chains security, Automated Program Repair, Open-source Software Security  
**Thesis title:** Software Supply Chain Security  
**Expected graduation date:** 04/2021.  
**Advisor:** Prof. Fabio Massacci
- 2015–2017: **Master of Science**, *Hongik University*, South Korea.  
**Thesis title:** Efficient Malware Classification Techniques Using Integrated Static and Dynamic Indicators  
**Advisor:** Prof. Seoung Oun Hwang
- 2010–2015 : **Bachelor of Engineering, Information Technology**, *Posts and Telecommunications Institute of Technology*, Vietnam.  
**Thesis title:** The research of rootkit on Windows systems  
**Advisor:** MSc. Phuc Le

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## Publications

### Journal Articles

- 2020 Duc-Ly Vu, Trong-Kha Nguyen, Tam V Nguyen, Tu N Nguyen, Fabio Massacci, and Phu H Phung. Hit4mal: Hybrid image transformation for malware classification. *Transactions on Emerging Telecommunications Technologies*, volume 31, page e3789. Wiley Online Library, 2020.
- 2020 Trong-Kha Nguyen, Duc-Ly Vu, and Seong Oun Hwang. Effective feature selection based on manova. *International Journal of Internet Technology and Secured Transactions*, volume 10, pages 383–395. Inderscience Publishers (IEL), 2020.
- 2019 Duy-Phuc Pham, Duc-Ly Vu, and Fabio Massacci. Mac-a-mal: macos malware analysis framework resistant to anti evasion techniques. *Journal of Computer Virology and Hacking Techniques*, volume 15, pages 249–257. Springer, 2019.
- 2018 Trong-Kha Nguyen, Duc-Ly Vu, and Seong Oun Hwang. An efficient neural network model for time series forecasting of malware. *Journal of Intelligent & Fuzzy Systems*, volume 35, pages 6089–6100. IOS Press, 2018.

### In Conference Proceedings

- 2021 Duc-Ly Vu, Ivan Pashchenko, Fabio Massacci, Henrik Plate, and Antonino Sabetta. Lastpymile: identifying the discrepancy between sources and packages. In *Proceedings of the 2021 29th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering*. ACM, 2021.
- 2021 Duc-Ly Vu, Ivan Pashchenko, and Fabio Massacci. Please hold on: more time= more patches? automated program repair as anytime algorithms. In *Proceedings of the IEEE/ACM 43rd International Conference on Software Engineering Workshops*. IEEE Press, 2021.
- 2020 Duc-Ly Vu, Ivan Pashchenko, Fabio Massacci, Henrik Plate, and Antonino Sabetta. Typosquatting and combosquatting attacks on the python ecosystem. In *2020 IEEE European Symposium on Security and Privacy Workshops (EuroS&PW)*, pages 509–514. IEEE, 2020.

- 2020 Duc Ly Vu, Ivan Pashchenko, Fabio Massacci, Henrik Plate, and Antonino Sabetta. Towards using source code repositories to identify software supply chain attacks. In *Proceedings of the 2020 ACM SIGSAC Conference on Computer and Communications Security*, pages 2093–2095. ACM, 2020.
- 2020 Ivan Pashchenko, Duc-Ly Vu, and Fabio Massacci. A qualitative study of dependency management and its security implications. In *Proceedings of the 2020 ACM SIGSAC Conference on Computer and Communications Security*, pages 1513–1531. ACM, 2020.
- 2019 Duc-Ly Vu, Trong-Kha Nguyen, Tam V Nguyen, Tu N Nguyen, Fabio Massacci, and Phu H Phung. A convolutional transformation network for malware classification. In *2019 6th NAFOSTED Conference on Information and Computer Science (NICS)*, pages 234–239. IEEE, 2019.

## Research Experience

### SAP Security Research, France

- June, 2019 – **Open-Source Security: Safeguards and attack surface reduction.**
- August, 2019 Developing a method to identify software supply chain attacks in PyPI.
- Advisor : Henrik Plate, Antonino Sabetta, *Senior Researcher*, SAP Security Research ([Personal Web-page](#))
- March, 2020 – **Open-Source Security: Safeguards and attack surface reduction.**
- May, 2020 Developing a method to identify software supply chain attacks in PyPI.
- Advisor : **Henrik Plate, Antonino Sabetta**, *Senior Researcher*, SAP Security Research ([Personal Web-page](#))

### European Network for Cyber-security (NECS)

November, 2017 **Software Vulnerability Analysis**, European Network for Cyber-security.

- November, 2020 Qualitative and Quantitative Software Vulnerability Analysis

Advisor : Prof. Fabio Massacci ([Personal Web-page](#))

### Information Security Machine Learning Lab, Hongik University, South Korea

2015 – 2017 **Malware detection using machine learning.**

Advisor : **Dr. Seong Oun Hwang**, *Professor, Department of Computer Science & Engineering*, Gachon University ([Personal Web-page](#))

### Bach Hung Khang Technology, Vietnam

January, 2015 **Developing and pentesting security tools on various systems including Windows, Linux, and Cisco.**

– Dec, 2015

Advisor : **Mr. Hung Tran**, *CEO*, BHK Tech ([Personal Web-page](#))

## Fellowships & Awards

- 2017 – 2020 **Marie Curie Research Fellowship** of European Network of Security Project
- 2015 Receipt of three **Good students** scholarship at Posts and Telecommunications Institute of Technology.

## Certificates

**CCNA** by Cisco

**AI for everyone** by deeplearning.ai

**Learning SQL Course** by Codecademy

**Learn the Command Line Course** by Codecademy

**Learn Web Scraping with BeautifulSoup Course** by Codecademy

**C1a English Language** by University of Trento, Italy

**Cleaning Data in Python Course** by DataCamp

**Convolutional Neural Networks in Tensorflow** by [deeplearning.ai](#)  
**Excel Skills for Business: Intermediate I** by [Macquarie Univeristy](#)  
**Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization** by [deeplearning.ai](#)  
**Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning** by [deeplearning.ai](#)  
**Natural Language Processing in TensorFlow** by [deeplearning.ai](#)  
**Neural Networks and Deep Learning** by [deeplearning.ai](#)  
**Programming for Everybody (Getting Started with Python)** by [University of Michigan](#)  
**Python Data Structures** by [University of Michigan](#)  
**Statistical Thinking in Python (Part 1) Course** by [DataCamp](#)  
**Structuring Machine Learning Projects** by [deeplearning.ai](#)  
**Understanding and Visualizing Data with Python** by [University of Michigan](#)  
**Write Professional Emails in English** by [Georgia Institute of Technology](#)  
**pandas Foundations Course** by [DataCamp](#)

## Software

- 2015 **C2Ass** in *Simulate assembly code for learning purpose.*
- 2015 **bandit4mal** in *A fork of Bandit tool with patterns to identifying malicious python code*
- 2015 **wtfpython-vi** in *wtfpython in Vietnamese*
- 2015 **virustotalIntelligence** in *A scanning tool supports detecting virus/malware by using VirusTotal.*
- 2019 **LastPyMile** *A tool to detect code discrepancy in PyPI packages*

## Computer skills

Programming Languages	Python, scikit-learn, keras, Rust, Tensorflow, Latex, pandas, Jupyter notebook, matplotlib, pytest
Web Technologies	HTML, CSS, Flask, Web scraping (Selenium, beautifulsoup)
Database	SQL, redis, MongoDB
Security	Yara, Cuckoo, Capstone Disassembler, IDA Disassembler, pestudio
Network	TCP/IP, Cisco
Operating system	Linux

## Teaching Assistantship

- Spring, 2021 : **ICT Innovation course**, University of Trento, Italy.
- Spring, 2021 : **Cyber Risk Assesment**, University of Trento, Italy.
- 2015-2018 **Python Courses for System engineers**, BHK Tech, Vietnam.

## Referees

### **Dr. Fabio Massacci**

*Professor, Department of  
Computer Science & Engineering*

Institute name

✉ abc@gmail.com

### **Dr. Antonino Sabetta**

*Associate Professor, Department of  
Computer Science & Engineering*

Institute name

☎ +(601) 877-6236

✉ abc@gmail.com

### **Dr. Henrik Plate**

*Associate Professor, Department of  
Computer Science & Engineering*

Institute name

☎ +(601) 877-6236

✉ abc@gmail.com