"Success is the sum of small efforts, repeated day in and day out." – Robert Collier

Patrick **Fabbiani**

Cybersecurity Master Student at Ca' Foscari University

via A. Scarsellini, 7, Marghera, Venice, 30175, Italy
via Colomel 2, Romallo, Trento, 38028, Italy

(+39) 348 44 58 721 | patrick1fabbiani@gmail.com | patrick2734.github.io | patrick2734 | patrick-fabbiani-495615128

Summary

Innovative Computer Scientist with expertise in cybersecurity, data protection, and risk management. Skilled in identifying and mitigating security threats, with experience in encryption, firewalls, IDS, and vulnerability assessments. Proven ability to develop robust security systems and solutions to safeguard organizational assets.
Driving License: Category AM, B

Health

Covid-19

Venice - Italy

SARS-CoV-2 acute respiratory disease

24/07/2022

Experienced mild symptoms such as fever, fatigue, and shortness of breath, but recovered after following prescribed treatment. The condition was managed under medical supervision with good progress.

Incident

Romallo, Trento - Italy

60% of invalidity

11/07/2010

Following a mountain accident that caused me to go into a coma, I developed deep personal resilience, adaptability, and determination. This experience taught me how to manage complex situations, face challenges with strength of character, and maintain a positive attitude in the face of difficulties.

Diabetes

Trento / Venice - Italy

Type 1 diabetes - Insulin Dependent

Dec. 2008

Diagnosed with Type 1 Diabetes at the age of X, requiring daily insulin administration to manage blood glucose levels. Ongoing monitoring and treatment to maintain healthy glucose levels and prevent complications. Regular visits to endocrinologist and diabetes care team.

Work Experience

Ca' Foscari University

Venice - Italy

Internship

Jun. 2024 – Dec. 2024

- Analyzed and tested the LiSA (Library for Static Analysis) plugin for taint analysis, identifying vulnerabilities and tracking data flow.
- Collaborated with development to improve taint tracking accuracy in database queries.
- Applied static analysis to assess security risks and prevent data leaks.
- Provided recommendations for enhancing data sanitization and security protocols.
- Documented findings and contributed to security reports to enhance database integrity.

Metropolitan City of Venice, IT Sector

Venice - Italy

Internship

Nov. 2020 – Feb. 2021

- Created thematic tables for the General Territorial Plan (PTG) to support urban planning.
- Mapped bike-sharing station locations and secondary schools in Venice using GIS tools.
- Managed and organized geospatial data for accuracy and consistency in territorial development.
- Collaborated with urban planners and local authorities for effective data-driven decision-making.
- Delivered actionable insights through visualized maps and geospatial reports
- Used QGIS to map 30+ bike-sharing stations, improving urban planning efficiency.

Personal study

Unity Test Project

Personal Project

Self-paced Learning

2025

Developed a simple game using Unity to understand core components of the engine. Key learnings included:

- Implemented UI components such as buttons and input fields.
- Managed scene transitions between game states.
- Gained hands-on experience in C# scripting for game logic and user input.
- Stored and retrieved data using local JSON files and/or in-memory data structures.
- Acquired foundational knowledge of Unity's component-based architecture and editor environment.

Unity learn

Personal

Self-paced Learning

2025

Learned the basic concepts of Unity from the sites

- https://learn.unity.com/pathway/unity-essentials
- https://learn.unity.com/course/tanks-make-a-battle-game-for-web-and-mobile/

I saw examples of the use of Unity from the Github repository

- https://github.com/zfergus/unity-examples/tree/master

Unreal Engine learn

Personal

Self-paced Learning

2025

Learned the basic concepts of Unreal Engine from the site

- https://dev.epicgames.com/documentation/en-us/unreal-engine/understanding-the-basics-of-unreal-engine

Generative AI

Personal

Self-paced Learning

2025

Proficient in leveraging generative AI tools such as ChatGPT and Qwen to support and accelerate application and software development. Skilled in utilizing AI models to assist with coding, debugging, documentation, and idea generation. Able to integrate AI-driven suggestions into various programming workflows to improve efficiency, streamline problem-solving, and enhance the overall quality of development projects. Experienced in using generative AI to prototype features, write technical content, and optimize code across multiple programming languages and frameworks.

Projects

Accademic thesis

Master thesis, LiSA taint analyzer (Dataset)

Ca' Foscari University - MSc

Thesis author

Jul. 2024 - May. 2025

Make a study on the taint analysis on dataset.
This study is based on LiSA analyzer (a library for static analysis developed at Ca' Foscari) and the goal is to improve program security, data integrity, data confidentiality,...
Conducted research on adapting taint analysis to track data flow and ensure integrity in datasets, proposing scalable "taint markers" for real-time detection of unauthorized modifications. Demonstrated feasibility and value of the framework in enhancing data security for sensitive sectors like finance, healthcare, and government.

Bachelor thesis - General Territorial Plan (PTG)

Ca' Foscari University - BS

Thesis author

Nov. 2020 - Feb. 2021

Collaboration with the agency for the creation of thematic maps for the General Territorial Plan (PTG).

High school thesis

High school thesis, Traffic Light Intersection Simulation Project

ITIS C. Zuccante

Thesis author

Mar. 2017 - Jun. 2017

Designed and implemented a simulation of a four-way traffic light intersection using PLC, RTU, and SCADA technologies. The system included both vehicular and pedestrian signal management with day/night modes and manual pedestrian request functionality. Developed hardware and software prototypes using Siemens LOGO, SCADA IdroNetwork, and RTU ISET-IS35. Implemented data logging, alarm visualization, and user interaction via graphical interfaces. Conducted alpha and beta testing to ensure system stability and functionality in realistic scenarios.

Accademic projects

Network Security

Ca' Foscari University - MSc

Attacker for challenge

January 2025 - May 2025

I completed several challenges in Network Security course:

- Lab 1: Set up a virtualized network security environment using Linux, Docker, and Wireshark to analyze network traffic.
- Lab 2: Captured and cracked WPA authentication handshakes using Wireshark and aircrack-ng to test wireless security.
- Lab 3: Configured a WPA-Enterprise network with RADIUS authentication, generating CA certificates and using hostapd.
- Lab 4: Developed a custom traceroute tool using raw sockets and tested ICMP redirect spoofing in a controlled network.
- Lab 5: Practical experience with ARP spoofing, man-in-the-middle attacks, packet sniffing, and network security analysis using Scapy and Ettercap.
- Lab 6: SYN Flooding and Reset Attack on TCP connection
- Lab 7: Firewall, Netfilter, using iptables to set up firewall rules
- Lab 8: Configure openVPN, use iperf to measure and compare network performance over the VPN and non-VPN connections, test the effects of TCP-based VPN configuration on performance.
- Lab 9: Analyze BGP routing behavior by toggling peerings between ASes to determine their commercial relationships, demonstrate how IP Anycast routes traffic to different physical hosts using the same IP address, perform and mitigate a BGP prefix hijacking attack to understand vulnerabilities in inter-domain routing.

Web Security - Personal projects

Ca' Foscari University - MSc

Developer

February 2025 - May 2025

I developed some personal projects to understand better the web security topics:

- I realized a SOP evaluator using JavaScript
- I realized a CORS simulator using Flask environment. This project simulate the fetching of data from the server.

Web Security

Ca' Foscari University - MSc

Attacker for challenge

January 2025 - May 2025

I completed several challenges on the PortSwigger platform using the appropriate BURP suite such as:

- Broken access control:
  - unprotected admin functionality with unpredictable url, user role controlled by request parameter, user id controlled by request parameter, user id controlled by request parameter with unpredictable user ids, insecure direct object references
- Logic flaws:
  - logic flaws excessive trust in client side controls, logic flaws high level, logic flaws inconsistent security controls, logic flaws weak isolation on dual use endpoint
- Cross-site request forgery:
  - This type of attack exploits the trust that a site has in the browser of an authenticated user by sending a malicious request without the user's consent
- XSS (Cross Site Scripting):
  - XSS is a security vulnerability that allows an attacker to inject malicious scripts into web pages viewed by other users. These scripts can then execute on the victim's browser, often leading to the theft of sensitive data, such as cookies or session tokens, or the execution of unwanted actions in the context of the victim's session.
-
  - cxcxc

I completed several challenges on the Flask environment such as:

- Session hijacking:
  - the attacker can steal the victim's cookies so can impersonate the victim at the server

I realized a web crawler in Python which analyse a csv file containing several websites and extract HSTS policies set by these sites (such as max-age, preload and includeSubdomains) and another one which extracts CSP policies.

Network Security - HCF (Hop Count Filtering)

Ca' Foscari University - MSc

Analyzer

Sep. 2024 - Jan. 2025

I have studied the research done by Haining Wang, Cheng Jin, and Kang G. Shin, three members of IEEE about the Hop Count Filtering method to filter the IP traffic to identify the spoofed packets.
I have implemented a little Flask application that simulates a web traffic and analyzing the traffic identify the IP spoofing attacks.
I have also implemented a traceroute script which executes the traceroute giving the IP address and return its result with the ttl of the packets.
I implemented a sniffer in Python which sniff the packets from the Internet and classify them as Legitimate or Spoofed

SW Correctness (Go Code Analysis) - Static code analysis

Ca' Foscari University - MSc

Software Developer, Analyzer

Apr. 2024 - Giu. 2024

In GO programs check the correctness of code. In case of vulnerabilities correct the code to improve security.

Hikari obfuscation

Ca' Foscari University - MSc

Software Security, Analyst

Mar. 2024 - Mar. 2024

Obfuscate the code using Hikari-LLVM Obfuscator. Hikari is an improvement over Obfuscator-LLVM with a few extra custom built passes and (hopefully not) bugs. This obfuscator provides 8 obfuscating transformations, each with their own set of options and parameters.

Web app performance evaluation (Tsung) - Database movies

Ca' Foscari University - MSc

Software Developer

May 2023 - Sep. 2023

Evaluate the preformance of a web application created to search movies in a database.

Face Detection (Java and OpenCV) - Viola and Jones algorithm

Ca' Foscari University - MSc

Software Developer, Full-Stack Developer, Security Engineer

Nov. 2021 - Jun. 2022

Created a Face Detection program using the Viola and Jones Algorithm. In this project I developed the detection of the various elements of the face such as eyes, nose, mouth, ear and it detects the whole face in front and by side.

Mine Hunter Robot (Lego Mindstorm) - Team Project

Ca' Foscari University - BS

Software Developer, Full-Stack Developer, Security Engineer

Oct. 2019 - May 2020

Build a robot, constructed with Lego Mindstorm, and implement the program to search mines in a game plan efficiently.
We have implemented the Android application connected with the robot to use the phone as camera that guide the robot.

Database Web App project - Team Project

Ca' Foscari University - BS

Web App Developer

Jun. 2019 - Aug. 2019

Simulate a Web App of an e-commerce specialized in videogames.
The application have several functions: the management of the users, the games and the acquisitions.

Arduino projects

ITIS C. Zuccante

Software Developer

Sep. 2014 - Jun. 2017

I built several Arduino projects such as the simulation of a semaphore using the RGB leds, simulation of a physical gate, numeric keypad, display lcd.

Personal projects

Code Editor UI for HTML, JavaScript, Python and Java (HTML + Flask)

Personal

Developer

2025

Developed an interactive, user-friendly code editor UI designed for real-time coding, syntax highlighting, and file management. The editor supports multiple programming languages, with features including code auto-completion, line numbering, error highlighting, and a customizable theme. Integrated various tools like search functionality, undo/redo, and a built-in terminal for seamless coding workflow. Utilized advanced JavaScript and React to ensure responsive design and optimal performance.

Memory Game (HTML + JS)

Personal

Developer

2025

The Memory Game project is a fun and interactive browser-based game that challenges users to match pairs of hidden cards. The game consists of a grid of face-down cards, each with a unique icon or image. Players flip two cards at a time, trying to find matching pairs. The objective is to match all pairs with the fewest attempts possible. The game keeps track of the number of attempts and the number of successful matches. It features a simple and intuitive design, offering a playful and engaging experience. This project helps improve memory and concentration while providing a fun challenge.

Expense Management (HTML + Flask)

Personal

Developer

2025

The Expense Management Project is a web-based application designed to help users track and manage their financial transactions effectively. This project aims to promote better financial planning and decision-making.

To-Do List (HTML + Flask)

Personal

Developer

2025

The To-Do List project is a simple yet effective task management application that allows users to create, update, and delete tasks in an organized manner. It is designed with a clean, user-friendly interface and responsive layout, making it easy to use on any device. The To-Do List project aims to enhance productivity by offering an efficient way to manage daily tasks and stay organized.

Diabetic Values Tracker (HTML + Flask)

Personal

Developer

2025

I developed a web application to track diabetic values, with features to calculate the mean of the values, the estimated HbA1c, and an overall rating of the trend, categorized as Optimal, Good, Fair, or Poor. As a diabetic, I found it interesting to create an application that allows me to visualize the progression of measurements and gain a clear and immediate understanding of the data.

Arduino projects

Personal

Developer

2025

I developed several projects with the use if the Arduino UNO like the simulation of a semaphore with a single led RGB, a simple calculator using the keypad.

Simulation Social Network (HTML + Flask)

Personal

Developer

2024-2025

I developed a simulation of a social network similar to Facebook, focusing on core features like user profiles, posts and messages (also with emoticons). The project included a Python-built backend. I implemented key functionalities such as user authentication, real-time updates, and a responsive design for the desktop. This project improved my understanding of full-stack development and database management, while also improving my problem-solving and debugging skills.

Python projects

Personal

Developer

2024

I developed several projects in Python such as a calculator, a cryptographic converter using different ciphers, a password generator, an indentator of the code of several languages (such as Python, Java, C++, Scala, Javascript, Ruby). I implemented also a simulation of several games such as minesweaper, sudoku, and hangman game. I build a script to play chess in 2 player and implement the possibility to play versus the computer, simulated by artificial intelligence.

Education

Ca' Foscari University

Venice, Italy

MSc in Computer Science - Cybersecurity

Sep. 2022 - Curr.

- Specializing in cybersecurity, with a focus on network security, cryptography, and risk management.
- Courses include Advanced Network Security, Cryptography, Cyber Threats and Vulnerabilities, and Ethical Hacking.
- Currently conducting research on emerging cybersecurity threats and solutions.

Ca' Foscari University

Venice, Italy

BS in Computer Science - Data Science

Sep. 2017 - Jun. 2022

- Focused on data analysis, machine learning, and statistical modeling.

ITIS C. Zuccante

Venice, Italy

High School Diploma in Computer Science

Sep. 2012 - Jun. 2017

- Graduated with a focus on programming, hardware, and software development, gaining proficiency in Java, C and C++.

Skills

Graphic Design	Adobe Photoshop
Web Development	Experienced in front-end web development using HTML and CSS, building responsive and user-friendly websites. Knowledgeable in optimizing web pages for performance and accessibility.
Programming Languages	Advanced proficiency in Java, C, C++, Python, Scala, and F-Sharp. Proven ability to develop efficient algorithms, work with object-oriented programming, and implement complex systems.
Microprocessors	Hands-on experience with Arduino UNO for prototyping and developing embedded systems, creating real-time data collection and control applications.
Database Management	Experienced with PostgreSQL and MySQL, including database design, query optimization, and managing relational databases for various applications.
Data Analysis	Skilled in using R and Python (Pandas, Numpy) for data analysis, statistical modeling, and data visualization. Familiar with Tsung for performance testing and distributed systems analysis.
Soft Skills	Strong team collaboration and leadership skills, with a focus on problem-solving, public speaking, adaptability, and fostering effective communication in cross-functional teams.
Organization	Proficient in project and time management, with a track record of successfully leading teams, delivering projects on time, and managing multiple tasks in fast-paced environments.
Languages	Fluent in English and Spanish, with a strong interest in learning German to expand communication skills and improve cultural understanding.
Certifications	CISCO CCNA Routing and Switching (Introduction to Networks) and B2 English certification, demonstrating a solid foundation in networking and advanced language proficiency.
Organizational and Managerial Skills	Proven ability to organize, manage, and delegate tasks in group projects, ensuring efficient workflow, meeting deadlines, and fostering a collaborative environment.

Interests and Hobbies

I have a variety of interests and hobbies that keep me active and curious. I've been playing tennis for over 15 years, an experience that has taught me resilience, focus, and the value of consistent practice. I also enjoy skiing and admire the determination and strategy displayed by cyclists during challenging stages. These sports instill discipline and a drive to overcome challenges.
I'm passionate about traveling, as it allows me to explore diverse cultures, connect with people from different backgrounds, and gain fresh perspectives. My enthusiasm for technology fuels my curiosity, I love staying updated on emerging trends and innovations, which inspire me with their potential to shape the future.
Last, but not least, I have a growing appreciation for the art of chess, and I find that exploring its complexities helps me think more clearly and creatively. Just as chess is an intricate game of strategy and foresight, it encourages me to approach problems with a more adaptive and thoughtful mindset. Whether I'm analyzing new openings or learning about famous historical games, chess helps me refine my ability to tackle challenges from multiple angles. These activities not only enrich my personal life but also strengthen my ability to adapt and think creatively.