Zambon Davide

Part-time MSc Computer Science Student at Ca' Foscari University
Part-time Software Developer (C++)

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About

I earned a **BSc in Computer Science** at Ca' Foscari University while working part-time as a **C++ software developer**.

My main role involves developing an **Autodesk Alias plugin** that integrates Radial Basis Function (RBF) morphing into the **industrial CAD workflow**, enabling rapid fluid-dynamics approximations.

I contributed to **backend development** and **database integration in Dart** at Bitcoin People, a startup redefining global payments through **Bitcoin** technology.

I participated in **CyberChallenge.IT**, a national **cybersecurity** competition, developing skills in **reverse engineering, cryptography, and attack/defense**. After qualifying via a CTF test, I competed nationally for the Ca' Foscari team.

Outside work, I build personal projects to deepen my knowledge of **low-level algorithms**, backend systems, and applied ML. I am proficient in **C/C++** (preferred), **Java, Python** (Flask, SQLAlchemy, Scikit-learn, Keras), **PostgreSQL**, and **Linux**.

I am passionate about growing as a software engineer, with interest in mid/low-level development, security, and emerging technologies like Bitcoin and AI.

Work Experience

C++ Plugin Developer - RBF Morph
November 2024 – Present | Full Remote

Developing a C++ plugin for Autodesk Alias to track geometry modifications, propagate mesh changes using RBF morphing, and estimate CFD result variations. This role has strengthened my C++ skills, Alias SDK usage, and computational geometry application. I have gained experience handling 3D data in CAD and use modern C++ libraries (Eigen, Nanoflann, Xatlas).

Dart Backend Developer - Bitcoin People
May 2025 - September 2025 | Full Remote

Backend development in Dart; Database management; code refactoring following ORM principles using Drift.

Various Experiences during studies
August 2020 - December 2024 | Venice

I have worked consistently alongside my studies since age 18, including 2 years in a supermarket and 6 months in fast food. The full list is available on my LinkedIn profile.

Education

MSc: Cybersecurity and Software Development - Ca' Foscari University of Venice
2025 – Present

Part-time student. Main topics: Software architecture and development methodologies; Software performance, scalability and correctness; System, Software and Internet Security; Cryptography; Formal methods for system verification; Applied probability; Quantum computing; Algorithms for massive data; Foundations of Machine Learning and AI; Functional programming languages.

BSc: Computer Science - Ca' Foscari University of Venice
2022 – 2025. Final Grade: 107/110

Graduated in three years (107/110) while working part-time, maintaining a 27.8/30 exam average. Learned development best practices, cybersecurity fundamentals, computational theory, and algorithms.

CyberChallenge Student and Finalist
February 2025 – July 2025

CINI national training program on offensive/defensive cybersecurity. Included theory, practical CTFs, and Attack/Defense exercises. Selected to represent Ca' Foscari in the national competition.

BSc: Astronomy - University of Padua
2020 – 2022

Completed two years of study (Calculus 1/2, Algebra, Physics 1/2, Astronomy, Chemistry, Statistics) before transitioning to Computer Science.

Astronomy stagist - University of Padua
2019

Participation in the "Il Cielo come Laboratorio" project: a theory course and practical internship at the Asiago Observatory (University of Padua) introducing astronomy research. Conducted analysis of star clusters.

Secondary School
Liceo Scientifico Statale "U. Morin", Mestre (VE). Final Grade 98/100

Personal Projects

Huffman Compression Algorithm
Lossless data compression algorithm implemented in C++. Builds a frequency-based binary tree to assign variable-length codes, reducing data size. Code on GitHub

Json Parser
Json Parsing: creates manipulable data structures from JSON files. Implemented in C++. Code on GitHub

Problematic Internet Use - Machine Learning project
Project for Data and Web Mining course. Objective: Predict Problematic Internet Use (SII) using biological markers from the HBN study. Trained an XGBoost model and an ensemble (Random Forest + Neural Network). Tech: Python, pandas, numpy, scikit-learn, Keras, XGBoost. Code on GitHub

Ecommerce Concept
Simple e-commerce concept focused on the backend, built in Python using Flask, Flask-Login, PostgreSQL, and SQLAlchemy. Code on GitHub

BigInteger library
Prototype for an arbitrary-precision integer C++ implementation (development suspended). Implemented the Karatsuba algorithm for multiplication. Code on GitHub

Android App
Android app (concept similar to *subito.it*) for selling food near its expiration date, including an internal chat. No public code, avaiable if requested

Hobbies

- Mountaineering
- Climbing
- Hiking

Languages and Drive licence

Languages: Italian (Native), English (Full professional proficiency), French (A1), Spanish (A1)

Driving Licence: B, AM. Car owner