

Georgios Nikolaidis

✉ georgen.public@gmail.com

🌐 georgios-nikolaidis

🔗 George-RG

📍 Geneva, Switzerland

Education

Informatics and Telecommunications BSc

National and Kapodistrian University of Athens

Expected GPA: 9.16/10 (**top 3%** of the university)

Notable Courses: Operating Systems, Implementation of DBMS, Distributed Systems

09/2021 – Present

Athens, Greece

Experience

Technical Student

CERN - Microelectronics Section

- RTL design of a radiation-hard **Ethernet MAC IP** for **CERN's first Microcontroller ASIC**.
- **Bare-metal** network stack for handling TCP/UDP Ethernet packets in **C**.
- Contributed to **SoC-Make** [🔗](#), a build system for both hardware and software based on CMake and Python.

08/2025 – Present

Geneva, Switzerland

Summer Internship

CERN - Microelectronics Section

- Developed a custom **bootloader for an RISC-V-based SoC** in Assembly and C++ to enable **FPGA** emulation.

07/2024 – 08/2024

Geneva, Switzerland

Lab Teaching Assistant

National and Kapodistrian University of Athens

- **Guided 100+ students** with fundamental programming concepts and coding assignments in Introduction to Programming and Data Structures courses.
- **Created UoaBot**, an automated Python grading platform with a React/Typescript frontend that tracks students' assignment progress and manages competitive project leaderboards. The website has 120K+ views and **300+ active students**.

10/2022 – 01/2025

Athens, Greece

Projects

FEMU (Bachelor Thesis) [🔗](#)

- Developed FEMU, a **firmware emulation platform** written in Python and based on **QEMU** emulator. Its goal is to enable fast, secure, scalable, and low-effort analysis of Linux-based **IoT device** firmware.
- Technologies: Python, QEMU, Linux Kernel, Binwalk, Bash, ARM/MIPS emulation

02/2025 – Present

K-Nearest Neighbor Search Engine

- Implemented the **Vamana** graph-based indexing algorithm for efficient **Approximate Nearest Neighbour** search with label-based filtering, leveraging greedy traversal and robust pruning techniques.
- Technologies: C++, Multithreading, Makefile

09/2024 – 01/2025

Extendible Hash Table For Databases [🔗](#)

- Created an extensible hash table for a DBMS to optimise **file indexing** and storage management, improving disk page allocation, record lookup, and retrieval efficiency.
- Technologies: C++

10/2023 – 01/2024

DitLab [🔗](#)

- Founded DitLab, a website providing essential resources that have helped **1000+ students** in my university department excel in their exams.
- Technologies: HTML5, Bootstrap, Python-Flask, PostgreSQL, Docker, Nginx, CI/CD

01/2023 – Present