

Athanasios Fytilis

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EDUCATION

University of Ioannina

Computer Science and Engineering (polytechnic school ,Master's Degree)

Ioannina, Greece

October 2021-Expected 2026

PROJECT & ORGANIZING EXPERIENCE

Internship Management App

Ioannina, Greece

March-May 2025

- Architected and developed a full-stack web application using the Spring Boot framework to build a comprehensive internship management system for students, faculty, and companies.
- Implemented a robust role-based access control (RBAC) system for four distinct user types (Student, Committee, Professor, Company) using Spring Security, ensuring secure data handling and feature access.
- Engineered end-to-end user workflows, including student application submission, administrative approval, and performance evaluations, utilizing Spring Data JPA for data persistence and Thymeleaf for dynamic UI rendering.

Link : <https://github.com/fytilis/internship-management-app>

Compiler project

Ioannina, Greece

March-May 2025

- Designed and implemented a complete, four-stage compiler from scratch in Python, successfully translating a custom procedural language (Greek++) into executable RISC-V assembly code.
- Constructed a recursive descent parser to build an Abstract Syntax Tree (AST) and perform semantic analysis via a symbol table, and utilized the backpatching technique for generating intermediate code for complex control flow.
- Engineered the final code generation phase, implementing a full stack frame management protocol and static links (access links) to support nested subprograms, parameter passing (by-value & by-reference), and recursion.

Link : <https://github.com/fytilis/Compiler-MYY802>

Operating Systems

Ioannina, Greece

March -May 2025

- Implemented a high-performance, multithreaded key-value store using pthreads, employing a readers-writer lock model to ensure thread safety and validating performance gains with a custom benchmarking harness.
- Modified the Linux Kernel Library (LKL) to instrument the VFAT file system, developing a robust logging mechanism to trace kernel-level operations like readdir and inode creation to user space.

Link : <https://github.com/fytilis/Operating-Systems-MYY601>

Artificial Intelligence Project

Ioannina, Greece

March -May 2025

- Developed a series of AI projects in Python to implement and analyze foundational algorithms in heuristic search and adversarial game theory.
- Engineered an optimal pathfinding solution for a complex maze by implementing the A search algorithm, justifying and utilizing a custom Chebyshev distance heuristic to significantly reduce node expansion compared to UCS.*
- Constructed an unbeatable AI opponent for a custom two-player game by implementing the MINIMAX algorithm to recursively explore the full game tree and guarantee optimal move selection

Link: <https://github.com/fytilis/artificial-intelligence-project>

Student's Finance Club of University of Macedonia

Thessaloniki, Greece

Member

October 2022 – Present

- Participated in various conferences and speaking events concerning finance issues
- Aspired to collaborate in teams and learn to analyze financial instruments effectively.

Working Experience

Giannitsa, Greece

Factory worker

Summer 2023, 2025

- Operated production line machinery efficiently, consistently meeting and often exceeding daily production targets in a fast-paced environment.
- Collaborated effectively with a team of operators to streamline workflow, troubleshoot minor operational issues, and maintain a clean and organized workspace to maximize productivity.

SKILLS & ACTIVITIES

Languages: Greek (Native), English (Proficient user – C2)

Coding skills: java, python, HTML, CSS, React (In progress), Next.js (In progress)

Activities: Avid reader, Playing piano, Basketball, Gym

Key competencies: Team spirit, Reliable, Creative, Quick learner