

Pierfrancesco Amendola

Currently an Apple Developer

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Profile

Computer Science student passionate about software development and artificial intelligence. I chose computer science to provide innovative tools for doctors and contribute to medical progress through advanced software and technological systems. Currently, I am doing an internship at CNR in bioinformatics, developing AI systems for medical image analysis. My goal is to deepen my skills in software engineering, data science, and algorithm design to make a tangible impact on the world. I want my time on this earth to be remembered; I want to write THE history.

Education

University of Naples Federico II
Bachelor's Degree in Computer Science

Naples, Italy
2023 – Present

- **GPA:** 25.42/30 (2 exams remaining)

Francesco Saverio Nitti Scientific High School
High School Diploma in Applied Sciences

Naples, Italy
2018 – 2023

Certifications

Google Challenge Campania (2026)

- **Category:** Health — **Achievement:** Winner with **Team Inf²**
- **Project CareTrack:** Developed a mobile app designed for the management of post-hospital home care, connecting patients, caregivers, and nurses.
- **Impact:** Enables nurses to set personalized care plans and caregivers to confirm administrations. Improves care continuity and reduces medical errors by providing an accessible clinical history for the patient.

JavaScript Algorithms and Data Structures – *freeCodeCamp*
[Certificate Link](#)

Nov 3, 2025

EIPASS 7 Modules User (Certificate No. TXY7A3FKYS)

Completed the European Informatics Passport certification, demonstrating digital competence across seven core ICT areas:

- ICT fundamentals and computer essentials
- Cybersecurity and data protection
- Web navigation and online information search
- Online communication and collaboration
- Word processing and document editing
- Spreadsheets and data organization
- Multimedia presentations and digital content creation

Cisco Cybersecurity Scholarship Program (2023)

Successfully completed the Cisco Cybersecurity Scholarship 2023, an advanced personal training path focusing on threat analysis, network defense strategies, and security fundamentals for IT professionals.

Cisco Networking Academy – Introduction to Cybersecurity (2022)

Completed the Cisco Networking Academy® course Introduction to Cybersecurity, demonstrating the ability to explain global implications of cyber threats and network vulnerabilities, describe the impact of cyber-attacks across

industries, understand Cisco's approach to threat detection and defense, and recognize cybersecurity as a growing professional field.

Experience & Projects

Internship

CNR Internship – Bioinformatics and AI

- Developing AI systems for medical image analysis.
- Classification of malignant and benign tumors using expert-annotated images.

Work & Community Experience

Community Leadership & Event Organization

2022 – 2025

- Established and coordinated a local youth center (Oratorio), organizing community activities and demonstrating leadership and project management skills.
- Assisted in the planning and execution of local evening events, managing logistics and collaborating effectively in team environments.

Educational Mentorship

2020 – 2023

- Provided after-school tutoring for young students, developing strong communication, patience, and mentoring abilities.

Journalist – Informazione Oggi

2019 – 2020

- Worked as a journalist for the news outlet *Informazione Oggi* at the age of 14, writing and publishing articles. Developed early written communication, research, and reporting skills.

Academic Projects

Multiplayer Battleship System (Operating Systems)

Final Grade: 30/30

- Client-server distributed application for a multiplayer Battleship game, featuring a custom TCP-based text communication protocol.
- Backend server developed in C, utilizing POSIX threads for handling concurrent client connections and mutexes for thread-safe synchronization of shared lobbys and game states.
- Implemented rigorous system-level features including POSIX signal handling for clean teardowns, timeout mechanisms for handling disconnections, and strict memory management (validated as memory-leak-free with Valgrind).
- Frontend graphical interface (GUI) built in Python using CustomTkinter, complemented by an alternative terminal-based CLI client developed in C.
- Integrated Docker containerization for streamlined deployment and included automated functional tests along with stress-testing scripts. Available on GitHub.

Post Management System (Software Engineering)

Final Grade: 30/30

- Full-stack distributed application based on microservices architecture for managing posts. Backend developed with Spring Boot featuring three independent microservices.
- Frontend GUI built using Java Swing with MVC pattern.
- Implemented Docker containerization with Docker Compose for orchestrating PostgreSQL database and all microservices. Applied DTO pattern, factory pattern, DAO architecture, dependency injection, and unit testing with JUnit.
- Secure authentication system using JWT tokens with role-based access control. Developed in collaboration with Fausto Andrea Bellucci. Available on GitHub.

FoodLab in Java

Final Grade: 30/30

- Full-stack application designed for managing cooking courses and chef activities.
- Backend developed in Java with DAO architecture and advanced OOP patterns. Frontend GUI built using Java Swing with MVC structure.
- Implements user authentication, course creation, chef management, and database interaction via PostgreSQL. Available on GitHub.

- Designed and implemented a generic SetVec class (ordered set) using a circular vector and binary search for efficient insertion, deletion, and lookup operations.
- Optimized shifting algorithms and memory management. Extended the project with a linked list variant (SetLst).

Personal Projects & Apps on Stores

SubTracker (iOS App)

- **Purpose:** Centralized, elegant solution for managing subscriptions, tracking recurring expenses, and maintaining control over spending.
- **Features:** Smart Dashboard sorted by renewal date, complete management with custom colors/icons, intuitive swipe actions, smart renewal reminders, multi-language support, and Premium Version with StoreKit 2 integration.
- **Technical Stack:** Swift 5.10, SwiftUI, SwiftData, iCloud sync (100% on-device storage), MVVM architecture, Observation framework, CryptoKit for SHA256 validation.

UniStats (iOS App)

- **Purpose:** Digital toolkit for Italian university students to track academic progress and plan degree paths.
- **Features:** Smart Exam Management, automated PDF import of transcripts, Advanced Dashboard with grade distribution, Degree Simulator, GPA Projection, and Grade Saver Calculator.
- **Technical Stack:** Swift, SwiftUI, SwiftData (100% on-device storage), Swift Charts, multilingual interface.

UniStudy Italia (iOS/Android App)

- **Purpose:** Centralized platform for locating and navigating study rooms across 100+ Italian universities/AFAM.
- **Features:** Complete Academic Database, real-time "Open/Closed" insights, Advanced Geolocation, Student Radar (BLE proximity networking), SmartWeather Integration, and dynamic UI personalization.
- **Technical Stack:** TypeScript, React Native (Expo), React Navigation, react-native-maps, BLE networking, AsyncStorage, Jest/Testing Library.

FreshCheck (iOS/Android App)

- **Purpose:** Digitizes tracking of perishable goods to combat food waste and optimize expiration date management.
- **Features:** Intelligent Tracking, Alert System for imminent spoilage, and Freshness Analysis.
- **Technical Stack:** Swift, SwiftUI, SwiftData, Swift Charts. Multilingual support.

Ripassa (iOS App)

- Flashcard-based study app with a minimal and distraction-free design. Developed in Swift using SwiftUI.

FedericoII App

- Mobile app for Federico II students (classrooms, schedules, grades). Developed in React Native. Release expected in 2-3 weeks.

Technical Skills

- **Programming Languages:** C, C++, Python, Java, Flutter/Dart, Swift, JavaScript, Prolog, TypeScript
- **Frameworks / Libraries:** React Native, HTML, CSS, SpringBoot, Swing, JavaFx, Three.js, Mockito, Node.js, Vue
- **Operating Systems:** Windows, macOS, Linux (Ubuntu, Kali Linux, Fedora), iOS, Android
- **Tools & Technologies:** Docker, Git, GitHub, VS Code, Xcode, Android Studio, Eclipse, SonarQube, GitHub-Pages, WSL, pgAdmin, UTM virtual machine, Oracle Virtual Machine, BalenaEtcher, Codex, Antigravity, Py-Charm, Terminal, iOS Simulator, Supabase, Firebase, AWS, Vercel, Netlify
- **Other Skills:** Bash scripting, mobile development, data analysis, FullStack developer, web developer, Relational Database development, Software Architect, Prompt Engineer
- **Soft Skills:** Teamwork, Problem Solving, Adaptability, Curiosity-driven learning, Communication, Loyal, Strong verbal communication skills, Persuasive, Influential

Languages

- **Italian:** Native
- **English:** Native-level (UK certification), B2 in Italy
- **Spanish:** Almost Native/Fluent
- **French:** Studied at middle school, I understand it but a little difficult to speak it
- **German:** I can speak basic German
- **Portuguese:** I'm learning

Artistic and Cultural Achievements

- **International Chamber Music Workshop (Oct 31 – Nov 3, 2024):** Participated in an international chamber music workshop led by Dora Cantella and Pierfrancesco Borrelli.
- **Piano and Guitar Instructor:** Teaching piano and guitar to children. Began studying piano at age 3 and later learned guitar and violin as a self-taught musician in England. Performances and concerts are documented on my Instagram.
- **Musical Composition and Direction:** Composed instrumental bases and lyrics for original songs, directed an orchestra, and currently serve as Artistic Director for local music projects.
- **Author and Researcher:** Co-author of the book *Arcobaleni e Nuvole*, published with the University of Naples Federico II. Currently writing a philosophical essay, a novel, and a collection of poems and songs (songbook).
- **Cultural Projects – "Adopt a Philosopher and a Scientist":** Participated in two editions of the national competition *Adotta un filosofo e uno scienziato*, presenting original cinematic projects. Ranked 5th in the first edition and 3rd in the second.
- **Merit Scholarship – Freie Universität Berlin (declined):** Awarded a scholarship for advanced studies, declined in order to complete the Computer Science degree in Italy.
- **Published children's books (Amazon KDP):** Wrote and self-published four children's books. Managed the entire creative process (writing, illustration design, layout, and publication).
- **Theatre Activities:** Active participant in theatrical productions. Member of the Tricca Ballacche Theatre Company. Performed on stage at the Auditorium of Bagnoli for Christmas.
- **Award Ceremony – 49th National Competition "Civis Sum":** Participated in the national award ceremony recognizing civic engagement and cultural excellence.
- **Learning Walk in San Giovanni a Teduccio:** On-site exploration focused on local development and urban transformation.
- **Jane's Walk:** Participated in a community-led urban walk promoting active exploration of neighborhoods.
- **PCTO in Urban Architecture:** Completed a training program involving urban planning, architectural analysis, and territorial development.

Interests & Extracurricular Activities

- Professional pianist, and rookie theatre actor
- Passion for AI applied to medicine and bioinformatics
- Software development projects to improve university tools and services
- Philosophy and literature