

# Pedro Godinho

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*B.Sc. in Telecommunications and Informatics Engineering · Department of Electrical and Computer Engineering · Instituto Superior Técnico*

## Summary

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MSc Student at Instituto Superior Técnico (expected October 2026) specializing in Internet Security, with hands-on experience in systems programming, networking, and cybersecurity. Designing and implementing a multi-agent LLM system for automated penetration testing, orchestrating specialized agents across reconnaissance, exploitation, and reporting using a state-machine architecture. Former CTF competitor with a top-15 finish at VolgaCTF 2020 Finals. Comfortable with systems-level programming with Rust, scripting with Python, and web development with TypeScript. Experienced in managing production infrastructure, including servers, networks, and lab environments.

## Education

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### Instituto Superior Técnico

M.SC. IN COMPUTER SCIENCE, EXPECTED OCTOBER 2026

*Lisbon, Portugal*

- Expected graduation date: October 2026
- Specializing in Internet Security
- *Thesis:* SagaPT: Specialized-Agent Graph Architecture for Penetration Testing - A framework that orchestrates multiple specialized agents to perform penetration testing tasks, leveraging a state machine to manage the flow of information between agents
- *Advisors:* Prof. Rui Valadas and Prof. Tiago Domingues

B.SC. IN TELECOMMUNICATIONS AND INFORMATICS ENGINEERING, OCTOBER 2025

### Salesianos de Manique

HIGH SCHOOL DIPLOMA, JUNE 2018

*Manique, Cascais*

- Science and Technology track

### Trinity College London

GRADE 8 IN PIANO, JUNE 2016

*Manique, Cascais*

- Studied classical piano and music theory

## Research & Projects

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### SagaPT: Specialized-Agent Graph Architecture for Penetration Testing

MASTER'S THESIS RESEARCH PROJECT

*Oeiras, Portugal*

*2025-Present*

- Designing and implementing a multi-agent LLM system for automated penetration testing, using a state machine to orchestrate specialized agents across recon, exploitation, and reporting tasks.
- Implementing a summarization agent that condenses findings into a curated knowledge base to inform future agent decision-making
- Built with Python and LangGraph, utilizing Cloudflare's AI Gateway for LLM routing, to enable benchmarking of different LLMs and configurations

## Experience

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### Instituto Superior Técnico

MONITOR IN THE DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

*Oeiras, Portugal*

*2025-Present*

- Maintained hardware for the department's 5 computer lab rooms, including troubleshooting and repairs for desktops and networking equipment
- Provided technical support for students and faculty, including assistance with software installation and network configuration
- Managed and updated the department's website and provided technical support for online resources
- Managed a server for hosting course resources and applications (e.g. GNS3, Wireshark)
- Maintained and updated a mesh network for the department labs and mobile networking course

### Mobile Educational Game for FeedInov

SYSTEMS PROGRAMMER VIA GAMEDEV TÉCNICO

*Oeiras, Portugal*

*2023*

- Served as systems programmer on a 1-year contract project for FeedInov, a non-profit zootechnical foundation, building a published mobile educational game teaching children about sustainable farming practices
- Architected and implemented core game systems: isometric grid-based farm simulation, time and progression systems, save/load system, sound management, input system, and overall game state management
- Shipped to the [Google Play Store](#)
- **Used Technologies:** Unity, C#, Git, Notion

## GameDev Técnico - IST's Game Development Student Association

Oeiras, Portugal

MEMBER OF THE OPERATIONS TEAM

2021-2025

- Managed the association's Minecraft server, including hosting, configuration, automated snapshots, and remote backups via BTRFS
- Participated in dozens of game jams, such as Global Game Jam, Ludum Dare, and Nordic Game Jam, often as a Gameplay Programmer
- **Used Technologies:** Unity, Unreal Engine, C#, C++, Git

## Security Team @Técnico - IST's Cybersecurity Student Association

Oeiras, Portugal

MEMBER OF THE SECURITY TEAM

2019-2021

- Participated in multiple Capture the Flag (CTF) competitions, including the finals for VolgaCTF 2020
- Specialized in reverse engineering and binary exploitation, but also contributed to web security and cryptography challenges
- **Used Technologies:** Ghidra, Binary Ninja, C, SQL, Python, pwntools, ZAPProxy, Grafana, Kibana

## Student Mentor at Instituto Superior Técnico

Oeiras, Portugal

STUDENT MENTOR FOR FIRST-YEAR TELECOMMUNICATIONS AND INFORMATICS ENGINEERING STUDENTS

2019-2020

- Provided guidance to first-year students on academic and social aspects of university life, including course selection, study strategies, and extracurricular involvement
- Helped organize orientation sessions and social events for new students to foster community and engagement
- Offered tutoring and support for students struggling with coursework, particularly in programming and networking subjects

## Awards and Honors

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- 1st Place **BreakingDev 48-Hour Hackathon - Best Video Game and Best Design Categories**
- 15th Place **VolgaCTF 2020 Finals - Global Cybersecurity Capture the Flag Competition**

## Skills

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|-------------------------|--|
| <b>DevOps</b>           | Docker, Ansible, GitHub Actions  |
| <b>Programming</b>      | Rust, Python, JavaScript (TypeScript), C#, Java, C, Go   |
| <b>Backend</b>          | Node.js, Flask   |
| <b>Frontend</b>         | Svelte, SvelteKit, React   |
| <b>Game Development</b> | Unity, Unreal Engine, Godot  |
| <b>Cybersecurity</b>    | Ghidra, Binary Ninja, pwntools, OWASP ZAP, GDB, Wireshark  |
| <b>General</b>          | Git, Linux, Shell Scripting, SQL, Networking, Proxmox, Microsoft Office, DaVinci Resolve, LaTeX, Typst |

## Hobbies and Interests

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- Programming and Software Development
- Programming Languages Design
- Computer Systems and Architecture
- Operating Systems
- Cybersecurity
- Artificial Intelligence and Machine Learning
- Computer Graphics and Game Development
- Classical Piano and Music Theory

## Languages

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|-------------------|--------|
| <b>Portuguese</b> | Native |
| <b>English</b>    | Fluent |