

Andreas Demosthenous

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Summary

CS undergraduate at the University of Cyprus (2023–2027) and Software Engineer intern at the KIOS Research and Innovation Center of Excellence. Work spans geospatial Python, full-stack web, embedded firmware, low-level Linux, and self-hosted infrastructure. Active interest in LLM systems and on-device inference.

Experience

Software Engineer Intern, KIOS Research and Innovation Center of Excellence – Nicosia, Cyprus Jan 2025 – present

- Develop Python / QGIS plugins for geospatial water-network modelling; design data-ingestion pipelines turning tabular utility datasets into topologically correct GIS layers.
- Set up CI/CD for in-house plugin distribution using GitHub Actions and Git LFS.

Education

University of Cyprus, BSc in Computer Science – Nicosia, Cyprus Sept 2023 – June 2027

- Coursework: Operating Systems, Computer Architecture, Distributed Systems, Algorithms, Cryptography, Software Engineering.

Projects

Self-hosted homelab on a Pi 5

- Production stack on a Raspberry Pi 5: Nextcloud, Vaultwarden, Paperless-ngx, Mosquitto, WireGuard. Reverse-proxied with Traefik (Let's Encrypt via Cloudflare DNS-01); external access via Cloudflare Tunnels; orchestrated with Portainer.

Smart-home automation and custom security system

- Multi-node ESP32 / Raspberry Pi system integrating sensors, actuators, and a custom security layer; full-stack web UI for monitoring and control.

Android kernel and device-tree ports

- Downstream device trees and kernel forks for Xiaomi (lavender, sdm660-common) and Samsung (universal7880) on AOSP / LineageOS.

ollama-flake

- Nix flake packaging Ollama for reproducible local LLM inference (github.com/AndrewDemsDS/ollama-flake).

Skills

Languages: Python, Java, C/C++, JavaScript/TypeScript, SQL, Bash

Web & data: Full-stack development, PostgreSQL, REST APIs

Geospatial: PyQGIS, QGIS plugin development, EPANET tooling, pandas/openpyxl

Systems: Linux (Gentoo, NixOS, Arch), Android device porting, systemd, kernel building

AI / LLMs: Self-hosted inference (Ollama, llama.cpp), MCP server development

Infrastructure: Docker, Portainer, Traefik, Cloudflare Tunnels, Nix

Hardware: ESP32, Raspberry Pi, Arduino

Spoken: Greek (native), English (B2+, English for Computer Science certification)