

# Saly Masri

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## Profile

M.Sc. Computer Engineering student at KTH (*exp. 2026*) who enjoys working where real-time systems, mobile networks and time synchronisation meet. I split my time between research on power-constrained, interference-aware cell planning and hands-on work with PTP-based embedded systems, moving comfortably between algorithms, code, lab measurements and production constraints. Looking to grow into a time-sync / networking engineer in telecom or power/energy, ideally in roles that combine applied research with system-level engineering in a collaborative team.

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## Skills

**Programming:** Python, C/C++, Java, PHP, JavaScript (ES6+) **Systems & Networks:** Linux/embedded Linux, TCP/IP, IEEE 1588/PTP, time synchronisation, Wireshark **Data, Simulation & ML:** NumPy, pandas, scikit-learn, PyTorch, experiments/simulations, visualisation **Web & Backend:** FastAPI/Flask, Jakarta EE (REST), Android, SQL/NoSQL databases, Docker **Manufacturing & Workflow:** Calibration & testing, troubleshooting, production documentation, Git/GitHub, Agile/Scrum

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## Experience

### Research Assistant (Part-time) — Mobile Networks

2025 — Present

KTH Royal Institute of Technology, Sweden

- Implement algorithms from research on power-constrained, interference-aware cell planning and run Python simulations to study how base-station placement and power impact coverage and interference.
- Visualise and compare planning strategies and document code/experiments so results stay reproducible.

### Manufacturing Engineer (Part-time)

2025 — Present

Megger AB, Sweden

- Prepare and update assembly instructions and perform calibration of instruments and systems in production.
- Support investigation and troubleshooting when issues occur on the line to secure product quality and uptime.

### Development Engineer — Summer Internship

Jun 2025 — Aug 2025

Megger AB, Sweden

- Configured an embedded Linux system for microsecond-level time synchronization using PTP and hardware timestamping and measured propagation delays across distributed Ethernet networks.
- Used Wireshark to analyse IEC 61850 GOOSE/Sampled Values traffic and developed scripts to compare timestamps and analyse delays in synchronized PCAP files.

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## Education

### KTH Royal Institute of Technology

Stockholm, Sweden

M.Sc. Eng. (Computer Science & Engineering), *exp. 2026*

### Mälardalens University

Västerås, Sweden

B.Sc. Analytical Finance, Jun 2021

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## Selected Projects

### Full-Stack Restaurant Platform

<https://github.com/SalyMasri/Java>

Jakarta EE (REST), MariaDB, JSF/HTML/CSS/JS, Android (Retrofit) | GitHub

- Built **customer site**, **admin dashboard**, and **mobile apps** with CRUD, authentication, workflows, and **real-time status** over a modular REST API.
- Implemented **database schema**, ORM, input validation, error handling, Docker/CI/CD basics; delivered responsive UI and clean OOP code.

### Hierarchical LLM + RL Agent

Python, PyTorch (PPO), JSON schemas, latency-aware controller | Academic

- Built hybrid controller where an **LLM** selects sub-goals and **RL** executes navigation/combat/flee; enforced event-driven switching and dwell-time.
- Focused on **real-time constraints**, metrics (latency, switches/min, dwell), and robust JSON I/O; applied testing and structured logs for reproducibility.

### Security & Protocols Lab

Wireshark, BIND/DNS, Linux, GDB, Docker | Academic

- Configured **DNS** zones/delegation and analyzed **TCP** handshake, retransmissions, congestion control; documented with packet-level evidence.
- Implemented **buffer overflow** & control-flow hijacking PoCs, static/dynamic analysis, and basic mitigations (hardening, input validation).

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## Languages

Arabic (Native) • English (Full Professional) • Swedish (Full Professional)