

# Patrick Louis

## Software Engineer

A deliberate thinker in a world of interconnected ideas and concepts, not afraid of intricate systems and specifications, simplifying their architecture. Great team player and planner.

## EXPERIENCE

### Invigo, Lebanon — Software R&D

2014 - PRESENT

Creating and maintaining a variety of services for mobile network operators.

Key role in remote-sim-provisioning/eSIM solution (consumer, M2M, IoT, Entitlement, UI, with SAS-SM security compliance). Currently live at 18 operators in 11+ countries, counting more than 100k profiles

Secure systems: HSM interface JCA/JCE, password policy, integration with OAuth2/OIDC and LDAP/AD, TOTP, TLS architecture and x.509 certificates

Sim Applets and telco: Multi-Imsi, ARAM (Access Rule Manager), IMEI tracking, Iot SAFE, WIB and STK (ISO 7816, ETSI, GP, GSMA, ASN.1, SIMalliance/Trusted Connectivity Alliance), Diameter (EPC) and 5GC integrations

Designing efficient, secure, and resilient systems: massive SMS campaigns using rabbitmq, mmap caching, redis, kafka, elasticsearch, decoupled and balanced pipeline.

Frontend/UI: Design with PHP, Perl, d3js, or VueJS for CWMP service, EIR (Equipment Identity registry) service, and ADM (Automatic Device Management)

### Nixers.Net — Server administrator

2013 - PRESENT

Administering the servers of nixers.net, keeping them up to date and secure. Creating activities for the community (1744+ members): podcasts (40 episodes), newsletters (136 entries), discussions (209+ threads), conferences, scavenger hunts, etc.

<https://podcast.nixers.net/feed/> <https://newsletter.nixers.net/>

## EDUCATION

### USEK, Lebanon — BS in Computer Science

2012 - 2014

Graduated with excellence — GPA of 91.19/100.

## PROJECTS (for brevity only a subset)

### 2bwm — A fast Window Manager

A fast floating X11 window manager, with the particularity of having 2 borders, written in C over the XCB library. <https://github.com/venam/2bwm/>

### Glitching Images — A research into image glitching

A dive into the fascinating world of art through image formats mangling: [https://github.com/venam/glitching\\_images](https://github.com/venam/glitching_images)  
<https://venam.net/blog/programming/2020/10/05/corruption-at-the-core.html>

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## SKILLS

Unix/Linux, Java (Spring Boot), SCRUM PSM I, C, C++, Perl, Python, VueJS, Telecom, TLS, Postgresql, Mysql, MariaDB, ASN1, Software Architecture, JCA/JCE, LDAP, OAuth2, docker, kubernetes, SOAP, REST, sim applet stk, 5GC NRF, Diameter, TOTP, wsdl, redis, ..

## AWARDS

### 1st place in Lebanon on Wechall

[https://www.wechall.net/country\\_ranking/player/kamel\\_louis](https://www.wechall.net/country_ranking/player/kamel_louis)

### 1st in Lebanon National CTF 2020

<https://cybertalents.com/competitions/lebanon-national-cybersecurity-ctf-2020/teams>

### 2nd place in b01lers.com CTF 2020

<https://ctftime.org/event/1089>

### 1st in CyberTalents Arab and Africa Regional CTF 2020

<https://cybertalents.com/competitions/arab-africa-regional-cybersecurity-ctf-2020/teams>

## LANGUAGES

Fluent in English and French. Understands/Talks, but not fluently, Arabic.