MAKSYM SAVCHUK

Junior Python / Full-Stack Developer

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PROFESSIONAL SUMMARY

Junior Python / Full-Stack Developer and 3rd-year Cybersecurity student at Lviv Polytechnic National University with 3+ years of programming foundation in Python and practical experience in modern web development. Experienced in engineering full-cycle web applications, combining asynchronous backend APIs (FastAPI, Django/DRF, Flask) with responsive frontend Single-Page Applications in React 18. Strong technical grounding in relational database normalization (MySQL to 3NF, SQLite, indexing, Data Snapshots pattern), task scheduling, web scraping, and Telegram Bot API integrations. Familiar with cloud infrastructure fundamentals (AWS Certified: Cloud Foundations), containerization (Docker), Linux deployment environments (PythonAnywhere, Netlify), and web security best practices (SQLi prevention, XSS defense, CORS configuration, form sanitization). Brings 10 months of online STEM teaching experience, demonstrating excellent analytical communication, code review discipline, and rapid technical adaptability.

TECHNICAL SKILLS

- **Frontend & Web Development:** React 18, Vite, React Router, JavaScript (ES6+), TypeScript (Basics), HTML5, CSS3, Flexbox & CSS Grid, Bootstrap 5, Fetch & Axios, PWA
- **Python & Backend Engineering:** Python 3.12, Django (Django ORM, DRF, MVT, Session Auth, Forms & Admin), FastAPI (Pydantic validation, Asyncio, Swagger/OpenAPI), Flask, Node.js (basics), Pygame
- **Databases & ORM:** SQL, PostgreSQL, MySQL, SQLite, Relational Database Normalization (3NF), Indexing & Query Optimization, Data Snapshots Pattern, Prepared Statements
- **DevOps, Cloud & Tools:** Git, GitHub, Docker, Docker Compose, Linux Deployment (PythonAnywhere, Netlify), GitHub Actions (CI/CD), AWS Cloud Foundations (EC2, S3, IAM, VPC)
- **Automation & Integration:** Web Scraping, Background Task Scheduling, Telegram Bot API, SMTP Email Dispatch, Webhooks
- **Security & Architecture:** Web Application Security (SQL Injection protection, XSS defense, CORS configuration, Form Sanitization), OOP Principles, Finite State Machines, Clean Architecture
- **Languages:** Ukrainian (Native), English (Intermediate / B1 - Technical documentation, APIs, Clean code & commits)

TECHNICAL PROJECTS

Finance & Subscription Tracker PWA | *Python, Django, SQLite, Telegram Bot API, GitHub Actions, PWA, PythonAnywhere*

- Engineered and deployed a production-ready financial tracking Progressive Web Application (PWA) on PythonAnywhere utilizing Django ORM and SQLite.
- Implemented a dynamic billing calculation algorithm that accurately predicts next charge dates across varying month lengths (28, 30, 31 days) and leap years.
- Built a token-secured background API endpoint integrated with an external cron scheduler and Telegram Bot API to dispatch automated morning payment alerts.
- Optimized database queries using Django ORM select_related/prefetch_related and configured user authentication workflows with SMTP password resets.

Students Community Forum SPA | *React 18, Vite, React Router, JavaScript (ES6+), REST API, CSS3 Flexbox/Grid*

- Developed an adaptive client-side Single-Page Application (SPA) forum featuring modular component architecture, responsive layout, dynamic discussion threads, and theme toggling.
- Connected an asynchronous REST API client pipeline handling HTTP status codes, loading states, and client-side form validations.

- Configured client-side navigation with React Router and state management workflows for dynamic rendering and optimized re-renders.

Game Telemetry & Global Leaderboard API | *FastAPI, Pydantic, REST API, SQLite/PostgreSQL, Database Indexing, Swagger / OpenAPI*

- Designed high-throughput asynchronous REST API endpoints using FastAPI to ingest real-time session telemetry from desktop games.
- Enforced strict data integrity and payload serialization using Pydantic models prior to database persistence, with auto-generated OpenAPI/Swagger documentation.
- Configured custom database indexes on player scores and completion times to guarantee zero-latency leaderboard responses under peak loads, covering endpoints with automated Pytest suites.

ServicePro CRM — Service Center Management System | *PHP 8, MySQL (3NF), Prepared Statements, Bootstrap 5, JavaScript, Chart.js, QR Generation*

- Architected and normalized a multi-entity relational schema to 3NF in MySQL, implementing a Data Snapshots pattern to safeguard historical transaction pricing against catalog updates.
- Engineered a secure administrative backend featuring session authentication, role-based access control, and prepared statements preventing SQL injection.
- Created an interactive Kanban board for workflow status updates, real-time KPI charts with Chart.js, automated printable work orders, and QR-code mobile verification.

Automated Price Monitoring & Scraper Service | *Flask, Web Scraping, Background Scheduler, SQLite, Telegram Bot API*

- Built an autonomous e-commerce web scraping service with an internal background scheduler triggering product price extraction every 12 hours.
- Designed relational database tables for historical price snapshots and implemented dynamic algorithms calculating price changes and discount percentages.
- Integrated the Telegram Bot API to automatically broadcast instant markdown-formatted discount alerts to subscribed users.

2D Arcade Games Suite: "Pirat Shooter" & "Ping-Pong" | *Python 3, Pygame, OOP Architecture, Finite State Machines, 2D Physics*

- Engineered a 50-level desktop action-platformer and a 2-player arcade game utilizing clean OOP design, unified game loops, and delta-time frame handling.
- Implemented finite state machines for seamless multi-frame sprite animations (idle, run, wall-jump, damage, death).
- Programmed mathematical models for gravity, jumping mechanics, collision resolution, particle systems, and persistent achievement tracking.

WORK EXPERIENCE

Programming Instructor (C++ & Unity) — OsviTech Online School | Remote *(October 2024 – April 2025)*

- Delivered individual and group online classes in C++ programming, object-oriented concepts, and 3D game development in Unity.
- Instructed students on algorithmic thinking, data structures, control flow, and code modularity.
- Conducted structured code reviews, identified syntax and logical bugs, and provided constructive feedback on practical projects.

Mathematics Tutor — OsviTech Online School | Remote *(September 2024 – June 2025)*

- Prepared high school students for national standardized university admissions testing (NMT) in mathematics.
- Deconstructed abstract and complex mathematical concepts into clear, intuitive step-by-step methodologies.

EDUCATION & CERTIFICATIONS

Bachelor of Science in Cybersecurity & Information Protection (3rd Year) — Lviv Polytechnic National University *(September 2024 – Present (Expected 2028))*

- Key Coursework: Programming, Relational Databases (SQL & 3NF), Computer Networks Architecture, Cryptography, and Information Security.

Professional Certificate in Python Development & Software Engineering — LogicaSchool *(2021 – 2024 (3-Year Program))*

- Comprehensive 3-year curriculum: Python 3, OOP architecture, algorithms, data structures, and desktop/2D game development.

AWS Academy Graduate — Cloud Foundations — Amazon Web Services (AWS) *(2026)*

- Covered cloud infrastructure, AWS compute (EC2), storage (S3), IAM security, and virtual networking (VPC).

Full-Stack Web Development — GoIT *(2026)*

- Hands-on curriculum covering modern frontend engineering (HTML5, CSS3, JavaScript ES6+), component structure, and DOM manipulation.

Product IT Business & Marketing — Genesis Academy *(2026)*

- Product-led engineering processes, user engagement analytics, and digital business metrics.

Information Security & Internet Safety — Prometheus *(2026)*

- Practical training in digital privacy, personal data protection, and proactive defense against cyber threats.