Andrii Maksymenko

Junior Software Developer

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PROFILE

MSc Computer Science graduate (with Honours) with hands-on experience in Python, Kotlin, and SQL across applied AI, backend development, and mobile development. Built a hybrid reinforcement-learning agent for game NPCs presented at two international conferences, a Kotlin/Ktor REST API deployed on Azure, and a native macOS app with AI agents. Comfortable working independently across the full build cycle – from design to implementation, testing, and cloud deployment. Native Ukrainian and Russian speaker, B2 English, seeking an English-speaking IT role in Prague.

KEY SKILLS

Languages & Tools: Python, Kotlin, SQL (PostgreSQL), Swift, Git, Linux

AI / Machine Learning: PyTorch, OpenAI Gym, Reinforcement Learning (PPO, DQN, A2C), Behavioral Cloning, CNNs; Retrieval-Augmented Generation (RAG), LLM integration (Ollama, Claude Agent SDK), text embeddings, vector search

Backend / Cloud: Ktor, FastAPI, REST APIs, Server-Sent Events (streaming), JWT Authentication, Docker, Docker Compose, Microsoft Azure, GitHub Actions (CI/CD)

Frontend / Web: React, JavaScript, HTML/CSS, Vite

Desktop & Mobile: Qt Quick (PySide6), Swift/WidgetKit; Android SDK, Firebase (Auth, Realtime DB, Storage), MVVM architecture

Databases: PostgreSQL – schema design, JOINs, views, stored procedures (PL/pgSQL), triggers; pgvector (vector similarity search); SQLite; Excel (intermediate)

PROJECTS

HYBRIDEA – Hybrid RL/IL Game AI Agent *– Python, PyTorch, OpenAI Gym*

- Designed and implemented a hybrid model combining Behavioral Cloning and Proximal Policy Optimization (PPO) to train NPC agents in a Ms. Pac-Man environment, benchmarked against five baselines (DQN, PPO, A2C, Monte Carlo, BC).
- Built a Conv2D-based Actor–Critic network processing 12-channel stacked-frame input, with full training/evaluation/checkpointing pipeline supporting GPU acceleration.
- Presented results at two international academic conferences (Odesa, 2025; Sofia, Bulgaria, 2026).

JobHelper – AI Job-Search Assistant for macOS *– Python, Qt Quick, Claude Agent SDK, Swift/WidgetKit, SQLite*

- Built a native macOS app in which five AI agents find and score job postings, tailor the CV and cover letter for each match, track replies from a read-only mailbox, and fill in application forms in the browser.
- Checked every model-written text against the master CV in plain code; covered by 1,900+ automated tests and CI.

Expense Tracker API *– Kotlin, Ktor, PostgreSQL, Docker, Azure*

- Built a REST API with JWT authentication, BCrypt hashing, refresh tokens, rate limiting, and a SendGrid-based password reset flow, with per-user data isolation enforced at the query level.
- Containerized with Docker and deployed to Azure App Service with managed PostgreSQL, Application Insights, and a GitHub Actions CI pipeline.

Local RAG Assistant – Document Q&A System *– Python, FastAPI, Ollama, pgvector, React, Docker*

- Built a full-stack retrieval-augmented generation (RAG) service that answers questions about PDF documents with page-cited, streaming responses, running entirely locally via Ollama (llama3.1) with no external API calls.
- Implemented the full RAG pipeline – PDF chunking, local embeddings, and cosine-similarity search in PostgreSQL/pgvector – behind a provider-agnostic LLM layer that lets the backend swap models without code changes.
- Built a React frontend with token-by-token streaming over Server-Sent Events, and containerized the full stack (database, models, backend, frontend) with Docker Compose and a GitHub Actions CI pipeline.

WORK EXPERIENCE & PRACTICAL TRAINING

Machine Learning Research Intern (Pre-Diploma Practice) – TOV NVO "Diskret" *Sep 2025 – Apr 2026*

- Completed applied research and implementation work for the Master's thesis project (hybrid RL/IL game AI), including literature review, model implementation, and experimental evaluation.

Software Engineering Intern (Production Practice) – PP NVP "Kare" *Sep 2023 – Mar 2024*

- Practical training at an electronics R&D company; completed an individual technical assignment analyzing and extending an indie game project (architecture, design patterns, framework selection).

Research Intern, Computer Vision (Production Practice) – NGO "Educational Fund KIPSOLID" *Apr – Aug 2023*

- Researched assistive computer-vision technologies for visually impaired users as part of an applied research assignment.

EDUCATION

MSc, Computer Sciences – with Honours *2024 – 2026*

Odessa Polytechnic National University, Ukraine – recognized as equivalent to a Czech Master's degree in Informatika (ČVUT Prague, 2026)

BSc, Computer Sciences *2020 – 2024*

Odessa Polytechnic National University, Ukraine – recognized as equivalent to a Czech Bachelor's degree in Informatika (ČVUT Prague, 2026)

Certificate: Creating Mobile Apps with Android – Anhalt University of Applied Sciences / DAAD, 2023 – 92/100 (Excellent), 120h / 4 ECTS

LANGUAGES

Ukrainian – Native · Russian – Native · English – B2 · Czech – Beginner