ELENA MATYUSHENKO

Senior Generative AI Engineer -Computer Vision, ML Pipelines, Full-Stack

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Civitai: 121 published models | 111K+ downloads | 13K+ likes | 1,300+ followers

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PROFESSIONAL SUMMARY

Senior Generative AI engineer building AI-powered products end-to-end -from training diffusion models and optimizing inference pipelines to shipping full-stack web platforms with real users.

Built and shipped **NexTry** (AI virtual try-on platform, 2,900+ users, 16+ generator tools), **BotBazar** (AI bot marketplace, currently in beta), and **TaskPilot** (open-source AI agent framework). Published 121 models on Civitai with 111K+ total downloads and 1,300+ followers.

Open to full-time, contract, and consulting roles in generative AI, ML pipeline engineering, and full-stack product development.

CORE SKILLS

Generative AI -Model Training & Fine-tuning

Diffusion stacks: SD 1.5/2.1/3, SDXL, FLUX, FLEX, HiDream, Qwen

Fine-tuning methods: LoRA / LyCORIS (LoHa, LoKr, LoCon), DreamBooth, Textual Inversion

Training specializations: style transfer, identity/character consistency, product realism, photorealism

Training infrastructure: custom pipelines in Python/PyTorch/Diffusers -dataloading, preprocessing, training loops, validation, hyperparameter search, logging

Dataset engineering: large-scale collection, cleaning, deduplication, balancing, quality filtering, captioning schemes, metadata design

Computer Vision -Control & Pipelines

ComfyUI: production-ready workflows, sampler/scheduler cross-testing, 2-5x inference speedups

Control adapters: ControlNet, IP-Adapter, PuLID

Segmentation/detection: SAM (Segment Anything), YOLO

Image processing: inpainting/outpainting, img2img, background replacement, product placement

Video: Luma, Kling, AnimateDiff, Runway, Hunyuan Video, WAN

Full-Stack Development

Frontend: Next.js 14/15 (App Router), React 19, TypeScript, Tailwind CSS, SCSS, Radix UI / shadcn, GSAP

Backend: NestJS, Node.js, Express, REST API design, Swagger/OpenAPI

Database: PostgreSQL, Prisma ORM, SQLite, Redis

Auth: Google OAuth 2.0, JWT, next-auth, email/password, API key auth, 2FA (TOTP)

Payments: Stripe (Checkout, Connect, Elements), escrow system, commission logic

AI Agent Development

Agent frameworks: custom TypeScript agent loop, tool registry, skill-based access control

LLM integration: 16+ providers (OpenAI, Anthropic, Groq, Ollama), function calling, prompt engineering

Security: command sandboxing, dangerous command blocking, approval workflows, encrypted settings

Leadership & Team Management

Team coordination: managing distributed developer teams, task allocation, code review, multi-developer Git workflows

AI-augmented engineering: leveraging AI coding tools (Claude Code, Cursor) to accelerate development velocity

Product management: requirements gathering, feature prioritization, sprint planning, technical decision-making

Process design: code style guides, commit conventions, documentation standards, CI/CD pipelines

Infrastructure & Deployment

Containers: Docker, docker-compose, multi-service orchestration

Cloud: AWS, Google Cloud, Azure, Lambda Labs, Scaleway

Web servers: Caddy (auto-TLS), Nginx

CI/CD: Git workflows, custom linters, architecture validation

Optimization: GPU inference tuning, batching, throughput/latency optimization

Data & Tooling

Python, PyTorch, Hugging Face Diffusers, Jupyter, NumPy, pandas, scikit-learn, SQL, Linux/Bash

PROFESSIONAL EXPERIENCE

Lead Engineer -NexTry | 2024-Present

AI-powered virtual try-on platform for e-commerce -2,900+ registered users

- Managing a distributed team of developers, coordinating parallel workstreams, code reviews, and release cycles
- Built and launched a Next.js 15 + React 19 platform with 16+ AI generator tools serving 2,900+ users: virtual try-on, mannequin generation, virtual photoshoots, colorization, pose transfer, fine art, acne removal, object placement
- Designed and optimized ComfyUI production workflows -systematic cross-testing of samplers/schedulers achieving 2-5x speed improvements (mannequin: 7.5s → 2.9s, colorize: 14.4s → 4.3s, restore: 33.3s → 4.0s)
- Implemented marketing landing + app in a single codebase with Tailwind CSS + GSAP animations + glassmorphism design system
- Built custom architecture linter enforcing layer rules, file size limits, import conventions
- Deployed with Docker (standalone build) on GPU cloud instances

Lead Engineer -BotBazar | 2024-Present, Beta

Marketplace platform connecting humans with AI bots for task execution

- Leading a multi-developer team with established Git workflows, code conventions, documentation standards, and task coordination
- Architected and built a full-stack monorepo from scratch: Next.js 14 frontend + NestJS backend + PostgreSQL + Redis
- Designed and implemented a complete payment system: Stripe Checkout for deposits, internal escrow with 10% platform commission, Stripe Connect for payouts
- Built a multi-role auth system: Google OAuth, email/password, bot API keys, 2FA (TOTP), identity verification pipeline (email → SMS → card)
- Implemented an AI bot ecosystem: bot registration, avatar system, arena for bot interactions, wilderness bots with auto-cleanup
- Built LLM moderation pipeline with AI provider fallback for content moderation
- Developed admin panel with user management, financial reports, moderation tools, email notifications

Lead Developer -TaskPilot | 2025-Present

Open-source security-first AI agent framework • github.com/NexTryApp/TaskPilot

- Designed and built a TypeScript AI agent framework (~2,000 LOC) with agent loop, tool registry, and memory system
- Implemented command security layer: dangerous command blocking, LLM-powered explanations, approval workflows
- Built skill-based access control (4 tiers from read-only to full system access) with encrypted API key storage
- Integrated 16+ LLM providers (OpenAI, Anthropic, Groq, Ollama local) via pluggable adapter pattern
- Docker sandbox for isolated command execution, web UI on localhost, zero telemetry. Open-source (MIT)

Senior Generative AI Engineer -Freelance | 2021-2024

Remote -commercial AI model training and production pipeline development

- Published 121 models on Civitai (111K+ downloads, 13K+ likes, 1,300+ followers) -LoRA/LyCORIS for fashion, product visuals, portraits, style systems
- Built end-to-end ComfyUI production pipelines: virtual try-on, mannequin generation, photoshoots, colorization, pose transfer, object placement
- Designed and prepared large-scale datasets: annotation/captioning guidelines, cleaning, deduplication, balancing, metadata schema
- Implemented training pipelines in Python/PyTorch/Diffusers: dataloading, preprocessing, training loops, validation, logging, config iteration
- Deployed models and inference APIs with Docker on GPU cloud (AWS/GCP/Azure/Lambda/Scaleway), optimizing cost/performance for production

EDUCATION

PhD in Law -analytical foundation applied to technical architecture, IP strategy, and compliance-aware product design

LANGUAGES

Russian -Native | **English** -Fluent

RATE

EUR 90-120/hour (scope-dependent) | Typical project: EUR 5,000-12,000